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June 1996

FINAL

Environmental Impact Statement

Bootstrap Project

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MISSION STATEMENT

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Elko District Office
3900 E. Idaho
Elko, Nevada 89801

In Reply Refer To:
1793.6/3809
(NV-010)

MAY 31 1996

Dear Reader:

Enclosed is the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for Newmont Gold Company's Bootstrap Project. The ROD for this project is being issued simultaneously with the FEIS. The approval of the ROD completes the environmental documentation for this project. The Bootstrap Project incorporates mitigation to minimize impacts to wildlife habitat and cultural resources and monitoring of pit water quality.

The FEIS has been prepared in an abbreviated format and must be used in conjunction with the Draft Environmental Impact Statement (DEIS), issued March 15, 1996. The FEIS and DEIS constitute the complete EIS. The FEIS responds to comments received during the public review period on the DEIS and contains a comprehensive mitigation plan committed to by Newmont to eliminate or reduce potential environmental impacts as described in the DEIS.

The decision reached in the ROD is subject to appeal to the Interior Board of Land Appeals. The 30 day appeal period starts with the publication of the Notice of Availability for the FEIS by the Environmental Protection Agency in the Federal Register. The appeal period for the ROD runs concurrently with the 30 day public review period for the FEIS. Implementation of the Plan of Operations will not begin until the 30 day public review of these two environmental documents are completed.

You may direct comments or questions to Deb McFarlane, EIS Coordinator, at the Bureau of Land Management, Elko District Office, 3900 E. Idaho St., Elko, Nevada, 89801.

Sincerely,

Helen Hankins

Helen Hankins
District Manager, Elko

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RECORD OF DECISION

May 31, 1996

NEWMONT GOLD COMPANY'S BOOTSTRAP PROJECT

N16-94-2P

INTRODUCTION

In July 1994, Newmont Gold Company (Newmont) submitted to the Elko District Office of the Bureau of Land Management (BLM) a Plan of Operations, as required by 43 C.F.R. 3809, for the proposed Bootstrap Project. Newmont submitted a revised Plan of Operations in March 1996. The proposed project would allow Newmont to reopen the Bootstrap Mine and develop the Tara Mine. Proposed facilities associated with these mines include waste rock disposal areas, heap leach pads, and construction of ancillary mine facilities, including an office, maintenance complex, security office, crusher facility, process ponds, carbon columns, and widening of an existing access road.

To respond to Newmont's proposed Plan of Operations, BLM prepared a Draft Environmental Impact Statement (DEIS), which was issued on March 15, 1996. Comments on the DEIS were solicited by BLM until April 29, 1996. In response to the DEIS and comments received thereon, Newmont, in coordination with BLM, prepared a Mitigation Plan to eliminate or reduce the potential impacts that were identified in the DEIS. Newmont's Mitigation Plan was accepted by BLM on May 28, 1996. An abbreviated Final EIS (FEIS) was prepared that responded to comments received on the DEIS and contained the approved Mitigation Plan. This Record of Decision (ROD) is being issued concurrently with the FEIS.

DECISION

Based upon the DEIS and FEIS, I have determined that the implementation of the Agency Preferred Alternative identified in the FEIS, which incorporates Newmont's Mitigation Plan, as well as the mitigating measures described below, will not cause unnecessary or undue degradation of the public lands. Therefore, the proposed Plan of Operations, as modified by Alternatives B and C-2 described in the DEIS, and Newmont's Mitigation Plan, is hereby approved subject to the mitigating measures described in this ROD. The Plan of Operations shall not be implemented by Newmont until 30 days following the date that the Environmental Protection Agency publishes, in the Federal Register, the Notice of Availability of the FEIS/ROD.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION, BLM'S PREFERRED ALTERNATIVE, AND ENVIRONMENTALLY PREFERRED ALTERNATIVE

The analysis of alternatives in the DEIS included the Proposed Action, the No Action Alternative, and three alternatives addressing specific issues raised during public scoping. The issues were: 1) feasibility of backfilling open pits; 2) using existing facilities to process ore from the new mines to eliminate the need for construction of certain facilities at the project site; and 3) utilizing existing power sources to eliminate the need for on-site power generation. The alternatives that were considered in detail for these issues were:

- Complete and partial backfilling of the Bootstrap/Capstone pit with waste rock;
- Processing oxide leach grade ore at the existing North Area Leach Facility;
- Utilizing Sierra Pacific Power Company's existing power line located on the west side of the Bootstrap Project site as a power source for the proposed mining-related activities.

A full description of each of the alternatives can be found in the Bootstrap Project DEIS.

The Agency Preferred Alternative includes all components of the proposed action as modified by Alternative B and Alternative C-2, as well as Newmont's Mitigation Plan. Alternative B requires Newmont to haul oxide leach grade ore to the existing North Area Leach Facility for processing, thereby eliminating the need for crushing, leaching and processing facilities at the Bootstrap Project site and resulting in a net reduction of 165 acres of disturbed land compared to the proposed action. Under Alternative C-2, power will be supplied for the proposed project from Sierra-Pacific Power Company's existing power line located on the west side of the Bootstrap Project site, thereby eliminating the use of on-site diesel-powered generator sets. The Mitigation Plan responds to the potential impacts identified in the DEIS, and provides for groundwater and pit lake water quality monitoring, enhancement of offsite mule deer transition range, and additional reclamation measures. This decision, which approves the proposed Plan of Operations as modified by Alternatives B and C-2, and Newmont's Mitigation Plan, subject to the mitigation measures described herein, is consistent with the Agency Preferred Alternative.

The National Environmental Policy Act, as interpreted through the regulations promulgated by the Council on Environmental Quality, requires that the Record of Decision for any Federal action also identify the "environmentally preferable" alternative. Because mining is, by its nature, disruptive to the resources in the immediate area being mined, none of the "action" alternatives is environmentally preferable. Rather, the no action alternative would result in the least disturbance to the environment.

MANAGEMENT CONSIDERATIONS

The modified Plan of Operations approved by this ROD provides for the continuation and expansion of mining in an area where mining has been identified as an appropriate land use by the Elko Resource Management Plan. The mine area is not included in any areas of designated national, regional, or local significance. Mining, by law, is a valid use of the public lands which is inherently site specific and which does not lend itself to relocation. Past operations by Newmont and other mining companies in the vicinity of the proposed action have established mining as a principle land use for the near term.

Approval of the Agency Preferred Alternative will allow Newmont to utilize its existing work force of approximately 550 from its North Operations Area, and its existing equipment and infrastructure to develop the Bootstrap/Capstone and Tara Mines. The Agency Preferred Alternative, including Newmont's Mitigation Plan, will minimize the adverse environmental impacts identified in the DEIS and FEIS and will ensure that all practicable means to avoid or reduce environmental harm have been incorporated into the project. The monitoring requirements under the Agency Preferred Alternative and Mitigation Plan will assist Newmont, BLM, and others in identifying and mitigating or avoiding any unforeseen environmental impacts that may occur. The monitoring and mitigation committed to, including monitoring of groundwater quality in wells to be constructed adjacent to the mine pits, will provide additional protection and periodic opportunities for BLM to refine its analysis of potential project impacts.

Considering all pertinent factors, the Agency Preferred Alternative provides for the systematic development of a minable resource in the least environmentally impacting manner. All practicable means to avoid or minimize environmental harm from the selected alternatives have been adopted.

MITIGATION AND MONITORING

This Decision expressly incorporates each of the following mitigation measures and monitoring requirements.

1. Cultural resource inventory work, in compliance with regulations established under the National Historic Preservation Act (NHPA), 36 CFR 800, has been completed in the area of potential effect. Newmont shall avoid or mitigate impacts to cultural resources eligible for inclusion in the National Register of Historic Places (Historic Properties) regardless of surface ownership. Descriptions of the potential effect and alternative measures to avoid these effects have been provided to the BLM. The BLM is consulting with State Historic Preservation Office (SHPO) to determine effects and appropriate mitigation measures for historic properties.

   If avoidance is not practical, Newmont shall, on its own expense, undertake data recovery at the affected historic properties following procedures set forth in the NHPA, as amended. Data recovery, archeological documentation, and report preparation shall be conducted in accordance with the "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation," 48 FR 44716 (September 29, 1983), as amended or replaced and shall be conducted by or under the direct supervision of a

professional archeologist who holds a current U.S. Bureau of Land Management Cultural Use Permit for Nevada and has the experience, capability, and facilities to successfully conduct the documentation. Newmont shall provide the BLM with a technical report that fully analyzes and reports the results of the data recovery effort no later than two years from the completion of the fieldwork.

2. If Newmont encounters any additional cultural resources on federal lands during the conduct of activities under the approved Plan of Operations, Newmont shall immediately notify the BLM and shall avoid any activities that might impact the cultural resource until told to proceed by the BLM.

3. The EIS documented that no species listed as threatened or endangered under the Endangered Species Act are known to be present in the Bootstrap Project area. While the EIS concluded that any such impacts are unlikely, Newmont will notify the U.S. Fish and Wildlife Service, the Nevada Division of Wildlife, and the BLM should impacts to species listed as threatened or endangered under the Endangered Species Act, candidate species or critical habitat be revealed during mine operations. After notification of these agencies, Newmont will implement measures to reduce or eliminate continued adverse impacts (if any) as directed by the agencies.

4. Any significant modification of the Plan of Operations affecting public lands or resources must be reviewed or approved by the BLM prior to its implementation. BLM reserves the right to require Newmont to submit a modification to their Plan of Operations, in accordance with 43 C.F.R. 3809.1-7, in the event that BLM determines that those operations would cause unnecessary or undue degradation of public lands or resources. In addition, if BLM determines at any time that the Plan of Operations as approved in this ROD is causing environmental impacts beyond those analyzed in the Bootstrap Project EIS, BLM may require the preparation of supplemental environmental documentation under the National Environmental Policy Act to analyze those impacts.

5. Mitigation of effects to fossilized materials may be required by BLM if vertebrate remains are discovered during construction, operation, or closure activates. If vertebrate remains are discovered, BLM shall be notified. BLM will determine the significance of the resources and develop a plan for mitigation and possible salvage of the vertebrate remains. If required by BLM, Newmont shall avoid and protect the remains until a qualified paleontologist, contracted by Newmont, conducts the investigation.

6. Prior to initiating activities authorized by the approved Plan of Operations, Newmont shall provide good and sufficient financial surety for post-mine closure reclamation to BLM, in a manner consistent with the regulations of the Nevada Division of Environmental Protection governing financial surety for reclamation (NRS and NAC 519A).

PUBLIC INVOLVEMENT

A Plan of Operations for the Bootstrap Project was initially submitted to BLM in July 1994. The scoping period was initiated by publication of a Notice of Intent in the Federal Register on December 2, 1994, and comments were accepted through January 3, 1995. The Notice of Intent summarized the proposed action and the BLM's determination that an EIS was necessary for analysis of the proposal. The public and all appropriate local and regional news media, including 23 radio stations and news organizations, were notified in writing of the periods for public comment. Formal scoping meetings were held in Elko and Reno, Nevada on December 7, 1994 and December 8, 1994, respectively. During the scoping period, written responses were received from eleven agencies or groups. Two oral comments were received during the Elko scoping meeting; no comments were received at the Reno meeting.

Based upon the public comments received and the issues and concerns identified by BLM, a DEIS was prepared. The DEIS was transmitted to the Environmental Protection Agency on February 29, 1996. A 60-day comment period was held through April 29, 1996. EPA published the Notice of Availability of the DEIS on March 15, 1996. The public, including all those interested parties identified on the updated Bootstrap Project EIS mailing list, and all appropriate local and regional news media, including 28 news organizations and radio stations, were notified in writing of the periods available for comment. A public hearing was held in Elko, Nevada, on March 26, 1996, and two comments were received. In addition, 18 comment letters were received. BLM reviewed all of the comments received during the 60-day public review period on the DEIS and addressed each comment in the FEIS.

A separate but parallel public notification process was conducted as required by various Federal statutes with regard to Native American issues. The BLM contacted Larry Kibby, Director of the Western Shoshone Historic Preservation Society (WSHPS) in February of 1995 to initiate formal Native American consultation for the Bootstrap project. The WSHPS has a memorandum of understanding with the Te-Moak Tribe of the Western Shoshone to act on their behalf towards the preservation and protection of cultural resources. Since its inception in 1993, the BLM has consulted with the WSHPS on all cultural matters concerning the Te-Moak Tribe of Western Shoshone. Consultation was completed in February of 1996. No issues, other than those presented in the EIS, were identified.

After the close of the comment period on the DEIS as required by the National Environmental Policy Act, comments were received from the Te-Moak Tribal Council and the Paiute Tribal council. Both questioned whether proper consultation with Native Americans had been completed. While the comments were not timely under National Environmental Policy Act for formal consideration and response in the comment section of the FEIS, the BLM determined that additional contact regarding the National Historic Preservation Act, American Indian Religious Freedom Act or Religious Freedom Restoration Act with Native Americans might be helpful. Felix Ike, Chairman of the Te-Moak Tribe of Western Shoshone, was contacted by phone and letter dated May 17, 1996 to solicit any additional concerns that the Native American community might have with the project. On May 21 and 28, 1996, Mr. Ike met with the Elko District Manager and staff. To date, no additional issues have been identified concerning impacts to cultural resources.

APPEALS

This ROD is subject to appeal pursuant to 43 C.F.R. 3809.4. A party that is adversely affected may file such an appeal in accordance with the procedures in 43 C.F.R. Part 4. An appeal shall be filed not later than 30 days after the date of publication of the Notice of Availability of the FEIS/ROD in the Federal Register. See 43 C.F.R. Part 4.

APPROVAL

Helen Hankins

Helen Hankins
District Manager, Elko

May 31, 1996
Date

FINAL
ENVIRONMENTAL IMPACT STATEMENT
NEWMONT GOLD COMPANY'S BOOTSTRAP PROJECT

LEAD AGENCY:

U.S. Department of the Interior
Bureau of Land Management
Elko District Office
Elko, Nevada

PROJECT LOCATION:

Eureka and Elko Counties, Nevada

COMMENTS ON THIS FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS) SHOULD BE DIRECTED TO:

Deborah McFarlane, EIS Coordinator
Elko District Office
Bureau of Land Management
3900 E. Idaho St.
Elko, NV 89801
(702) 753-0200

DATE FINAL EIS WAS MADE AVAILABLE TO THE EPA AND THE PUBLIC:

June 7, 1996

DATE BY WHICH COMMENTS SHOULD BE RECEIVED BY THE BLM:

July 8, 1996

ABSTRACT

The Final Environmental Impact Statement (FEIS) provides responses to comments received by BLM during the public comment period on the Draft Environmental Impact Statement (DEIS). The DEIS analyzed potential impacts associated with development of the Bootstrap Project located in northeastern Nevada, analysis of alternatives to the Proposed Action, and identifies mitigation measures to be implemented to eliminate or reduce described impacts. The Proposed Action includes: (1) re-opening the Bootstrap/Capstone Mine, (2) development of the Tara Mine, (3) construction of two new waste rock disposal areas, (4) construction of a new heap leach facility, (5) construction of ancillary mine facilities, (6) upgrading existing access roads to accommodate truck transportation of ore to the North Operations Area Mill #4 complex, and (7) reclamation of disturbed areas. The Agency Preferred Alternative is implementation of Alternative B (leach ore would be transported to North Area Leach Facility for processing) and Alternative C-2 (off-site power would be used for the Bootstrap Project).

Responsible Official for EIS:

Helen Hankins
Elko District Manager

FINAL ENVIRONMENTAL IMPACT STATEMENT
NEWMONT GOLD COMPANY
BOOTSTRAP PROJECT

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CHAPTER 1

INTRODUCTION

This Final Environmental Impact Statement (FEIS) is prepared for Newmont Gold Company's (Newmont) proposed Bootstrap Project located in northeastern Nevada. The FEIS contains the Agency Preferred Alternative, BLM's Record of Decision (ROD), a record of written and verbal comments received on the Draft Environmental Impact Statement (DEIS), and Newmont's Mitigation Plan which outlines mitigation measures Newmont would implement to eliminate or reduce impacts resulting from development of the Bootstrap Project. The previously distributed DEIS and this document together constitute the FEIS for the Bootstrap Project.

The Bootstrap Project DEIS was distributed for public comment on March 15, 1996. The BLM received written comments and held one public meeting to receive comments during the public comment period which ended April 29, 1996. Neither written comments nor verbal comments received during public meetings required major changes or revisions in the analysis or conclusions presented in the DEIS. The DEIS has not been reprinted, and therefore, this document must be read in conjunction with the DEIS which was released for public review on March 15, 1996. Minor revisions to the text of the DEIS are addressed in Chapter 3 (Errata) of this document.

The Agency Preferred Alternative is described in Chapter 2 of this document. Chapter 3 provides specific edits or corrections to the DEIS. All comment letters received by the end of the comment period and responses to substantive comments are located in Chapter 4.

The FEIS also includes Newmont's Bootstrap Project Mitigation Plan (Appendix A) which addresses impacts described in the DEIS and those identified through public comments. The Mitigation Plan was developed through consultation with BLM and Nevada Division of Wildlife (NDOW). The Mitigation Plan is comprehensive and includes mitigation measures for potential environmental effects identified in the DEIS without regard to whether the impact would occur on private or public land. Mitigation measures contained in the plan provide (among other issues) for expansion and continuation of wildlife enhancement projects in the Carlin Trend, access along the Dunphy Road, and implementation of measures to ensure safety of the public.

CHAPTER 2

AGENCY PREFERRED ALTERNATIVE

This section of the FEIS describes the Agency Preferred Alternative. The FEIS Agency Preferred Alternative incorporates the Agency Preferred Alternative described on page 2-45 of the DEIS with incorporation of Newmont's Bootstrap Project Mitigation Plan.

AGENCY PREFERRED ALTERNATIVE - FEIS

The Agency Preferred Alternative would implement all components of the Proposed Action with the following modifications:

- Implementation of Alternative B - Ore Processing at North Area Leach Facility. Implementation of this alternative would require Newmont to haul oxide grade ore to their existing North Area Leach Facility for processing. This action would eliminate construction of a leach facility at the Bootstrap Project site.
- Implementation of Alternative C-2 -Off-site Power Supply Associated with Alternative B. This alternative would eliminate the installation of on-site power generation equipment at the Bootstrap Project site and would require that off-site electrical power be used to supply the project area.
- Implementation of Newmont's Bootstrap Project Mitigation Plan (Appendix A).

CHAPTER 3

ERRATA

This Chapter contains specific modifications and corrections to the Bootstrap Project DEIS. These corrections and modifications were made in response to comments received during the public comment period.

Page 2-26; column 2, paragraph 4 of the DEIS has been revised as follows:

"Wildlife

As part of the Proposed Action, Newmont would implement wildlife exclusion measures required by the Industrial Artificial Pond Permit for the Bootstrap Project. This permit is administered by NDOW. Requirements include fencing and maintenance of bodies of water to exclude wildlife prior to operation of the facilities. Monitoring programs would be implemented to monitor for open solutions (such as inadvertent ponding of water on top of the heap leach pad) and to report wildlife mortality to NDOW. Lack of wildlife mortality is also reported to NDOW."

Page 2-40; column 1, paragraph 1 of the DEIS contains a typographical error. The reference to "7" haul trucks per hour in the second sentence should read "17" haul trucks per hour.

Page 3-15, column 2, paragraph 1 of the DEIS has been revised as follows:

"PM-10 particulates have been measured at the Betze/Post Mine air monitoring station for several years. The data from 1995 are summarized in **Table 3-5**. The maximum PM-10 concentration measured was 47 micro-grams per cubic meter (ug/m^3). This concentration, measured on August 7, 1995, is well within the Nevada and federal twenty-four hour PM-10 concentration of 150 ug/m^3 **(Table 3-6)**. The second highest twenty-four PM-10 concentration measured was 37 ug/m^3. The 1995 average PM-10 concentration measured was 15 $\mu g/m^3$. This concentration is compared to the Nevada and federal annual PM-10 standard of 50 ug/m^3."

Page 3-15; **Table 3-5** of the DEIS has been revised to incorporate 1995 air quality data. See Revised Tables in this chapter.

Page 3-18; column 1, paragraph 3; first sentence of the DEIS has been revised as follows:

"The U.S. Geological Survey gaging station on Boulder Creek (site number 10324700) is approximately one mile downstream from the confluence with Rodeo Creek. This gaging station was operated from February 1991 to June 1993, and thereafter has been operated seasonally each year from January through June."

Page 3-26; 2nd column; paragraph 1, of the DEIS has been modified as follows:

"This creek drains an area of approximately 19.4 square miles above the confluence with Bell Creek."

Page 3-27; column 2; last paragraph of the DEIS has been modified as follows:

"Surface Water Quality

Barrick (1995) currently collects water samples from four surface water stations on Rodeo Creek (RC-AA, RC-A, RC-B, and RC-C), four stations on Boulder Creek (BC-AA, BC-A, BC-B, and BC-C), and two stations on Brush (BR-1 and BR-3) and Bell (BL-1 and BL-2) creeks on a monthly basis (**Figure 3-6**; BC-C not shown on figure). In addition, the USGS collected a water sample at its station on

Boulder Creek in March 1993. The USGS station is located approximately 1 mile downstream of the Rodeo Creek confluence near station BC-B (**Figure 3-6**)."

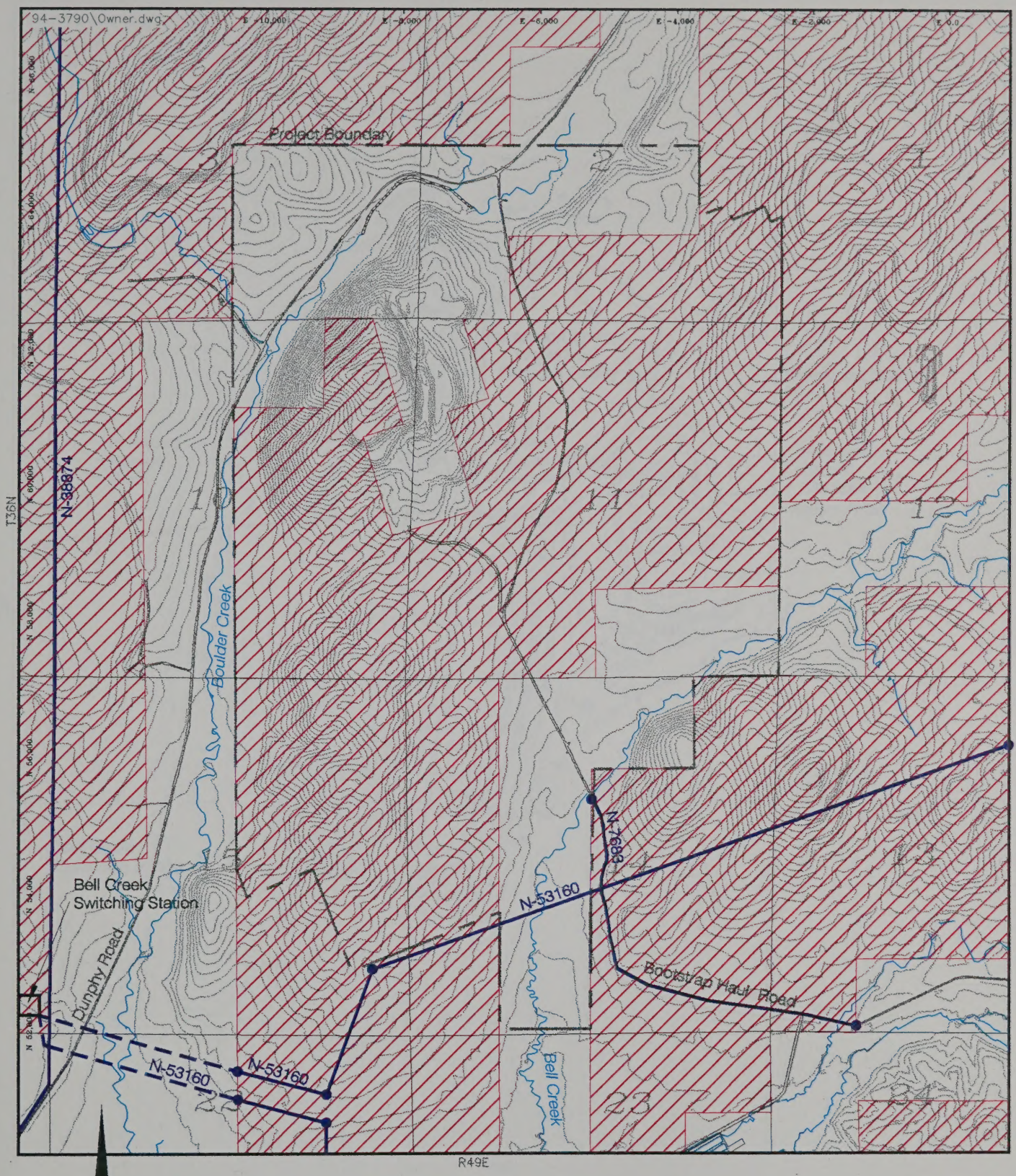
Page 3-45; **Figure 3-10** of the DEIS has been revised to incorporate information contained in the wetland survey completed by EIP in 1993. See revised **Figure 3-10**.

Page 4-38, column 1, paragraph 2 of the DEIS has been revised as follows:

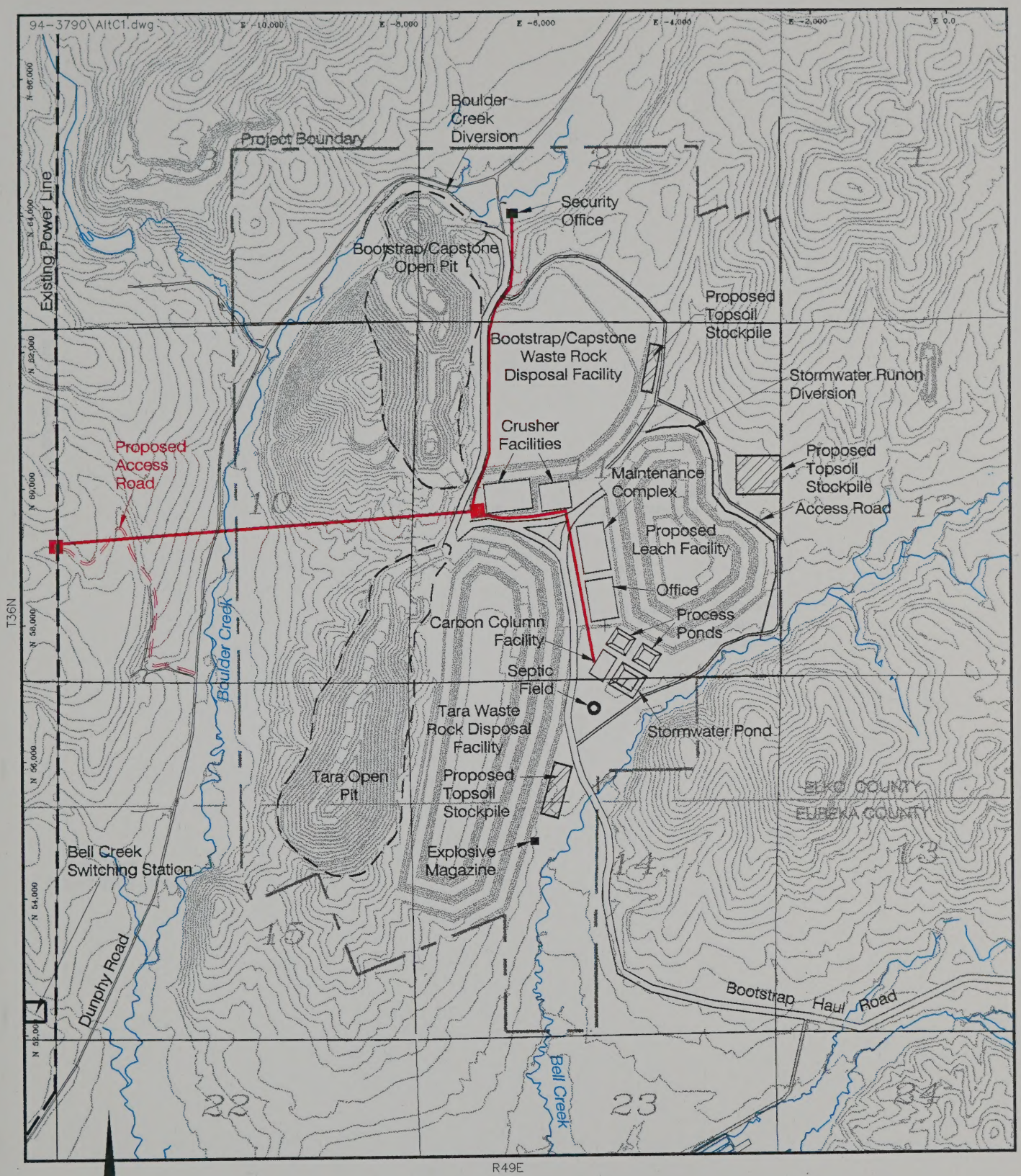
"No impacts on water uses or water rights in the Bootstrap Project area are expected because there would be no dewatering or water discharge associated with the project. In addition, the Boulder Creek diversion and mine pit interception of a portion of Boulder Creek are not expected to significantly affect groundwater levels or surface water flows in this project area. The mine pit lakes that would eventually develop at the Bootstrap Project may be available for water use with appropriate water rights. Should the state water engineer determine that Newmont's activities are affecting water rights along Boulder Creek, Newmont would be required to take appropriate actions to protect those water rights."

The following Figures and Tables included in the DEIS have been modified:

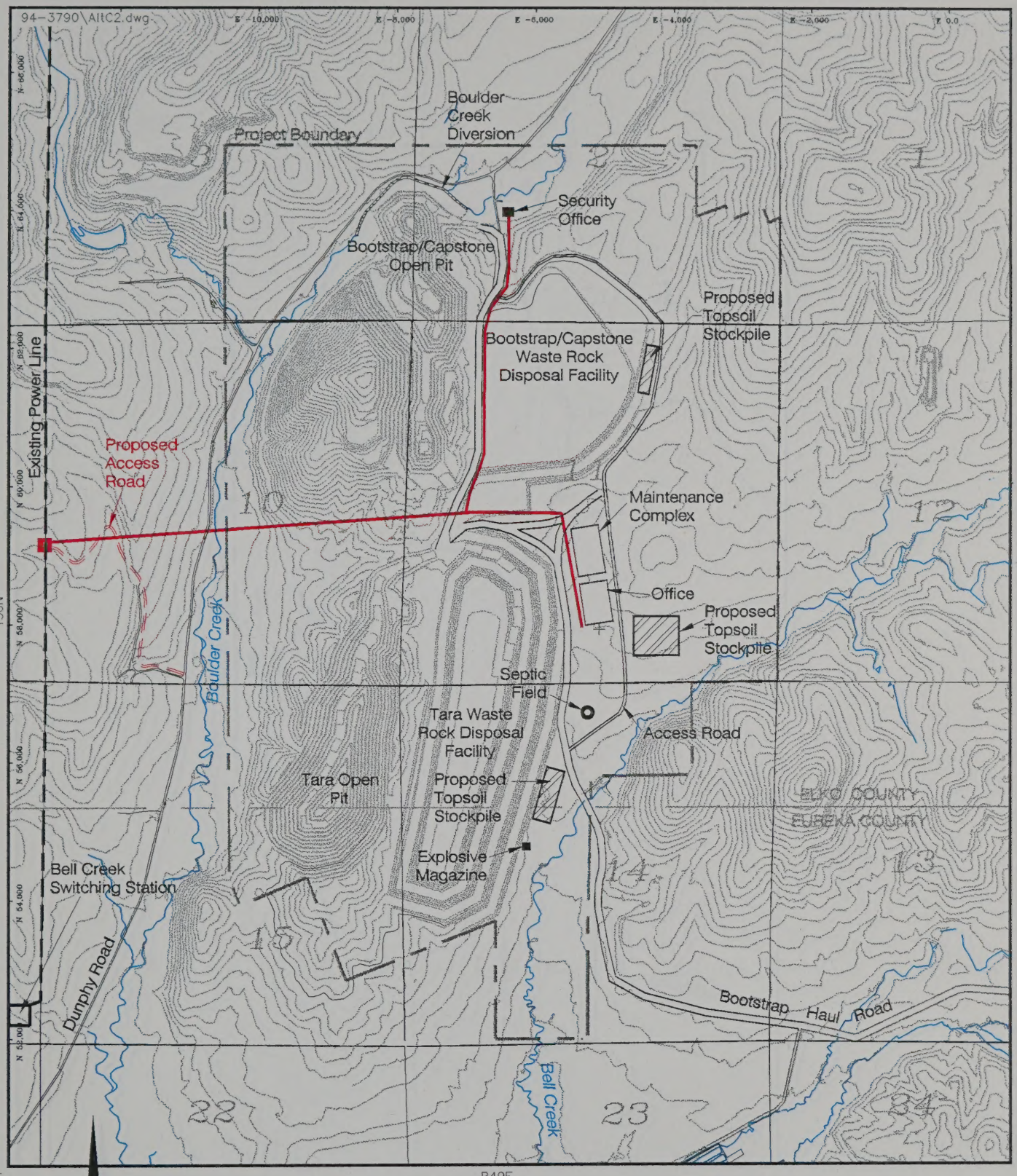
REVISED FIGURES



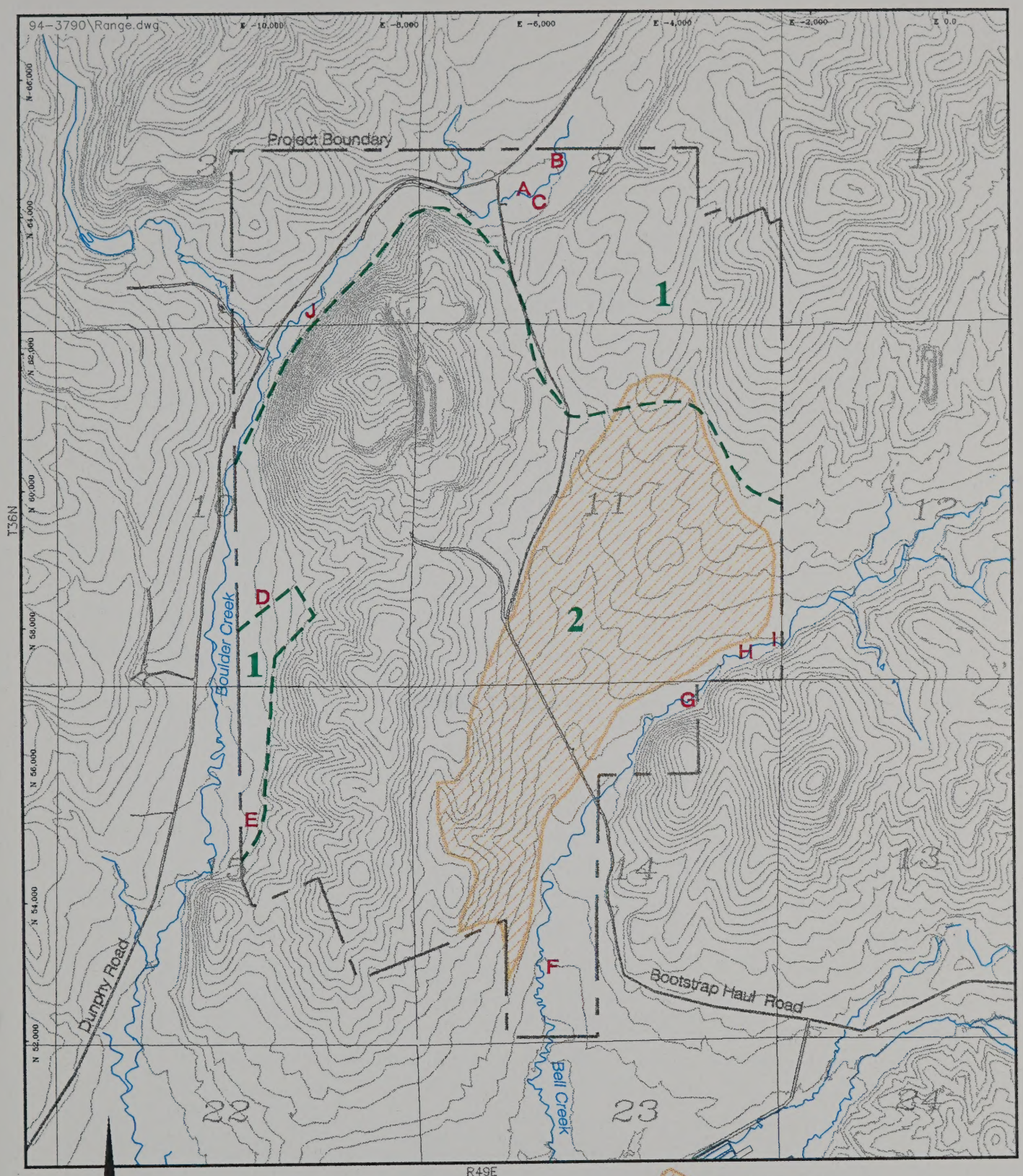
Surface Ownership/ROW
Bootstrap Project
FIGURE 2-2



Alternative C-1
Off-Site Power Supply
Associated With Proposed Action
Bootstrap Project
FIGURE 2-10



Alternative C-2
Off-Site Power Supply
Associated With Alternative B
Boostrap Project
FIGURE 2-11



Ecological Sites Delineation

Seeded Rangeland

1 Cobbly Claypan 10-12" p.z. (ESD 25-22) 40% Coverage
Claypan 10-12" p.z. (ESD 25-18) 40% Coverage
Loamy 10-12" p.z. (ESD 25-14) 20% Coverage
p.z.= Precipitation Zone. ESD=Ecological Site Description (SCS 1992, 1991).

2 Loamy 8-10" p.z. (ESD 25-19) 70% Coverage
Shallow Loam 8-12" p.z. (ESD 25-21) 20% Coverage
Loamy 8-10" p.z. (ESD 24-5) 10% Coverage

A Wetland (Source: JBR 1990 and EIP 1993)

Ecological Sites And Wetland Areas Bootstrap Project FIGURE 3-10

REVISED TABLES

Table 2-6, Page 2-35 of the DEIS has been revised as follows:

TABLE 2-6 Seed List for Bootstrap Project Area	
Thickspike wheatgrass	*Agropyron dasystachyum*
Pubescent wheatgrass	*Agropyron trichophorum*
Streambank wheatgrass	*Agropyron riparium*
Bluebunch wheatgrass	*Agropyron spicatum*
Sandberg bluegrass	*Poa sandbergii*
Indian ricegrass	*Oryzopsis hymenoides*
Webber ricegrass	*Oryzopsis webberi*
Idaho Fescue	*Festuca idahoensis*
Green needlegrass	*Stipa viridula*
Bottlebrush squirreltail	*Elymus elymoides (Sitantion hystrix)*
Great Basin wildrye	*Elymus cinereus*
Crested wheatgrass	*Agropyron cristatum*
Sheep fescue	*Festuca ovina*
Western wheatgrass	*Agropyron smithii*
Slender wheatgrass	*Agropyron trachycaulum*
Canby bluegrass	*Poa canbyi*
Sand dropseed	*Sporobolus cryptandrus*
Alkali sacaton	*Sporobolus airoides*
Northern sweetvetch	*Hedysarum boreale*
Buckwheat	*Eriogonum spp.*
Annual ryegrass	*Lolium multiflorum*
Common yarrow	*Achillea millefolium*
Small burnet	*Sanguisorba minor*
Blue flax	*Linum lewisii*
Gooseberryleaf Globemallow	*Sphaeralcea grossulariaefolia*
Scarlet globemallow	*Sphaeralcea coccinea*
Desert globemallow	*Sphaeralcea ambigua*
Arrowleaf balsamroot	*Balsamorhiza sagittata*
Palmer penstemon	*Penstemon palmeri*
Big sagebrush	*Artemisia tridentata varieties tridentata and wyomingensis*
Chokecherry	*Prunus virginiana*
Black sagebrush	*Artemisia nova*

TABLE 2-6 (continued) Seed List for Bootstrap Project Area	
Shadscale	***Atriplex confertifolia***
Fourwing saltbush	***Artiplex canescens***
Prostrate forage kochia	***Kochia prostrata***
Serviceberry	***Amelanchier alnifolia***
Winterfat	***Ceratoides lanata***
Rubber rabbitbrush	***Chrysothamnus nauseosus***
Mormon tea	***Ephedra (nevadensis)(viridis)***
Antelope bitterbrush	***Purshia tridentata***
Snowbrush	***Ceanothus spp.***
Currant	***Ribes spp.***
Wood's rose	***Rosa woodsii***
Snowberry	***Symphoricarpos spp.***

Source: Newmont 1996

Table 3-5, page 3-15 has been revised as follows:

TABLE 3-5 AIR MONITORING DATA FOR BETZE/POST MINE	
Values in micrograms per cubic meter	
PM-10 Concentration	**1995**
Maximum	47
Second highest	37
Arithmetic annual average	15

Source: Barrick 1996.

Table 3-17, Page 3-44 of the DEIS has been revised as follows:

TABLE 3-17
Wetland Areas Within the Bootstrap Project Boundary

Wetland[1] Mapping Unit	Size (Acres)	Location[2]	Description
A	0.1	NW SW Section 2	North side of Boulder Creek
B	1.3	SE NW Section 2	North side of Boulder Creek
C	0.6	NE SW Section 2	South of Boulder Creek
D	1.0	SW SE Section 10	Seep area near east side of Boulder Creek; currently may be affected by Betze/Post mine dewatering
E	7.3	N of center Section 15	Complex of seeps connected by wet meadows near east side of Boulder Creek; currently may be affected by Betze/Post Mine dewatering
F	16.0	SE SW Section 14 and NE NW Section 23	Grassy wet meadow on floodplain of Bell Creek includes stock pond 0.3 acre in size
G	0.5	NW NE Section 14	Grassy wet meadow on floodplain of Bell Creek
H	0.1	SE SE Section 11	Grassy wet meadow on floodplain of Bell Creek
I	0.5	SW SW Section 12	Grassy wet meadow on floodplain of Bell Creek
J	<0.1	SW SW Section 3	Herbaceous wetland along Boulder Creek

[2] All sites located in T36N R49E.

Source: JBR (1990b) and EIP (1993)

Chapter 6 - References and Glossaries; List of References in the DEIS has been modified to add the following references:

Department of the Army, Corps of Engineering. 1993. USCOE Permit No. 199300369. Boulder and Bell Creek Diversions.

Department of the Army, Corps of Engineers. 1996. Regulatory Section Permit No. (199625028) (FNW-14) Bootstrap Haul Road Project.

EIP and Associates. 1993. Newmont Gold Company, North Operations Area. Delineation of Wetlands and Other Waters of the United States

Schafer & Associates. 1995. Reclamation Monitoring Program for Waste Rock Facilities, Golden Sunlight Mines.

Barrick. 1996. Quarterly Air Quality Reports.

Brown & Caldwell. 1996. Environmental Permitting Assistance - Bootstrap Gold Mine Project for Newmont Gold Company.

Newmont Gold Company. 1996. Proposed Bootstrap Project Area Reclamation Plan.

CHAPTER 4

COMMENTS AND RESPONSES

This chapter includes copies of all public comments received in response to the Bootstrap Project DEIS. The BLM's responses to substantive comments are provided adjacent to the reproduced comment letters. Eighteen comment letters were received on the DEIS. The comment period for the DEIS ended on April 29, 1996.

A public meeting was held in Elko, Nevada on March 26, 1996 to accept public comments on the accuracy and adequacy of the DEIS. Two verbal comments were received. A verbal comment provided by Glenn Lewis has been transcribed and is presented in this section. A verbal comment provided by John Barber was accurately reflected in his hand-delivered letter which is included in this section as Letter 7.

Letter 1.	State of Nevada, Division of Wildlife
Letter 2.	Building and Construction Trades Council of Northern Nevada
Letter 3.	United States Environmental Protection Agency
Letter 4.	Sierra Pacific Power Company
Letter 5.	United States Department of the Army, U.S. Army Engineer District, Sacramento
Letter 6.	Eureka County Public Land Advisory Commission
Letter 7.	Dee Gold Mining Company, March 26, 1996
Letter 8.	Dee Gold Mining Company, April 22, 1996
Letter 9.	John Davis Trucking Company, April 22, 1996
Letter 10.	John Davis Trucking Company, April 25, 1996
Letter 11.	State of Nevada, Department of Administration enclosing comments from the Nevada Natural Heritage Program
Letter 12.	26 Ranch
Letter 13.	Newmont Gold Company
Letter 14.	Kevin Sur
Letter 15.	Mine Service & Supply Co.
Letter 16.	Baroid Drilling Fluids, Inc.
Letter 17.	Department of Health and Human Resources
Letter 18.	United States Department of the Interior; U.S. Geological Survey

Comment received from Glenn Lewis during public meeting in Elko, Nevada on March 26, 1996

Letter #1

BOB MILLER
Governor

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WILDLIFE
1100 Valley Road
P.O. Box 10678
Reno, Nevada 89520-0022
(702) 688-1500 • Fax (702) 688-1595

PETER G. MORROS
Director
Department of Conservation and Natural Resources

WILLIAM A. MOLINI
Administrator

April 17, 1996

Deb McFarlane, EIS Project Manager
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, NV 89803

RE: SAI #95300072, Draft Environmental Impact Statement, Bootstrap Project, ~~Pincock~~ Newmont Gold Company, BLM

Dear Ms. McFarlane:

We appreciate the opportunity to review and provide comments on the subject document. We have the following comments from our review of the document.

A In the Summary on Page S-5, in the discussion of the environmental consequences of Alternative A-1, under the heading Terrestrial Wildlife, the document indicates the loss of two pit lakes would eliminate a potential source of drinking water for wildlife. With the proximity of Boulder Creek to the project area, this loss could be considered minimal and would be offset by the gain in an additional 100 acres of disturbance that would be productive again.

B On Page 4-27, in the discussion under Potential Mitigation and Monitoring Measures, a mitigation suggested is to prevent livestock from grazing on revegetated areas for two years. We would suggest the language be changed to prevent grazing until the reestablished plant community can adequately support grazing pressure. Two years may not be an adequate amount of time to allow the plants to become established well enough. Grazing the disturbed sites to soon after planting may impact the success of the reclamation effort and possibly effect the ultimate bond release for the operator.

C On Page 4-29, under Direct and Indirect Impacts to Terrestrial Wildlife, the document discusses the impacts to mule deer transitional range. The discussion is adequate in its identification of impacts to mule deer on transitional ranges. The importance of the Bootstrap site as transitional range has been reduced by the recent extensive mining activity presently occurring in Little Boulder Valley and moving out into the northern end of Boulder Valley. This activity has caused a shift of the deer migration from the west side of the South Tuscarora range to the east side of the range. We believe that the majority of deer that use to migrate on the west side have shifted their migration to the east side of the range or to the Sheep Creek Range. This has been documented during our annual deer surveys and several ground surveys of the area. An important point is that the deer have shifted

Letter 1 -- State of Nevada; Department of Conservation and Natural Resources; Division of Wildlife

Response 1A

Based on the predicted water quality, the pit-lakes which would form at the Bootstrap Project site after cessation of pumping at the Betze/Post Mine could provide quality wildlife habitat. BLM has determined that backfilling of the Bootstrap/Capstone pit would have no advantage to wildlife resources in comparison to the Proposed Action.

Complete pit backfilling of the Bootstrap/Capstone open pit with Tara waste rock would require modification of the proposed mining sequence. The proposed mining sequence for the Bootstrap Project was developed primarily to supply mill-grade oxide ore to Mill #4. Disruption of the proposed mining sequence may result in under-utilized mining equipment and processing facilities.

Response 1B

Re-established plant communities would be protected from livestock until monitoring indicates that plant establishment and growth have progressed to the point that livestock use can be supported without adverse effects on the plant and soil system. The response to animal use will be assessed through the revegetation monitoring program that will measure plant cover, production, and woody plant density for at least 3 years after revegetation is completed. See Appendix A Bootstrap Project Mitigation Plan.

C to existing, traditional migration corridors. All of these corridors are associated with topographical features such as mountainous or hilly terrain. We have not observed deer migrating through non-traditional areas. Again, we strongly support maintaining the traditional migration routes.

D The priority for maintaining deer movement through the Tuscarora Range must focus on maintaining the existing corridors that deer are currently using. The majority of deer that migrate in the Tuscarora Range move through a gap at mid elevation on the east side of the Range. The importance of this corridor cannot be overemphasized. The Bureau of Land Management and Newmont put considerable effort into maintaining this corridor when Newmont constructed a haul road through this area. These efforts have allowed deer to continue to migrate through the area. This corridor must be maintained to assure that deer can get to and from critical winter ranges located to the south of the mining activity.

E On Page 4-31, Under the heading of Potential Mitigation and Monitoring Measures, the document discusses the lower elevation habitat as potential mitigation locations. The document goes on to further indicate the mule deer migration appears to be shifting from the Dunphy Hills to the Izzenhood and Sheep Creek ranges. This is true to some extent. However, the Dunphy Hills remain one of the most important wintering locations for deer in Management Area 6. Newmont Gold Company, the BLM, and the Division of Wildlife have put considerable effort into improving the quality of this critical site. Under better habitat conditions it would be possible for this winter range to support substantially more deer.

F On Pages 4-59 and 4-60, the document discusses the Cumulative Impacts in the area on terrestrial wildlife. The entire discussion concerns mule deer. Why is there is no discussion on any other form of terrestrial wildlife?

G The selection of alternatives would have a great impact on wildlife resources. The selection of Alternative A-1 and B would provide the best plan for wildlife. The complete backfill of the Bootstrap/Capstone pits would increase the amount of reclamation by 100 acres. Hauling the ore to the existing North Area Leach Facility would reduce the initial disturbance by 165 acres. Thus, the combination of Alternatives A-1 and B would see a net improvement in habitat for wildlife n the long term of 265 acres over the proposed action.

Response 1C

Comment noted.

Newmont has developed a Mitigation Plan for the Bootstrap Project, see Appendix A. The Mitigation Plan provides for continuation and expansion of wildlife habitat enhancement projects in the Carlin Trend area.

Response 1D

The corridor on the east site of the Tuscarora Range will not be impacted by the Bootstrap Project.

Response 1E

Comment noted.

Response 1F

The cumulative effects analysis provided in the DEIS is limited to species which would be directly or indirectly impacted by the Proposed Action. With the exception of negligible impacts to small mammals, no terrestrial wildlife species other than mule deer were identified as being impacted in the Bootstrap Project area; therefore, cumulative effects analysis is limited to mule deer.

Response 1G

See Response 1A regarding backfill of the Bootstrap/Capstone pit. BLM selected Alternative B as part of the Agency Preferred Alternative.

Deb McFarlane
April 17, 1996
Page 3

If you should need any additional information or have any questions concerning this information, please feel free to call me.

Sincerely,

Rory E. Lamp
Biologist
1375 Mountain City Highway
Elko, NV 89801
(702)738-5332

RL

cc: Habitat Bureau
Nevada State Clearinghouse
Doug Zimmerman, Chief, Bureau of Mining Regulation and Reclamation, NDEP
Martin Jones, Manager, Environmental Compliance, Newmont
Region II
File

Building and Construction Trades Council of Northern Nevada

AFFILIATED WITH THE
BUILDING AND CONSTRUCTION TRADES DEPARTMENT
AFL-CIO

TELEPHONE 322-3361

1180 TERMINAL WAY
RENO, NEVADA 89502

Here are comments by the Northern Nevada Building Trade Council regarding the proposed Newmount Bootstrap Mine expansion.

NET LOSSES OF PUBLIC LANDS AND WILDLIFE HABITAT

The Building Trades Council (BTC) recognizes the importance of mining in supplying important metals for our economy. The Newmont Mine has provided thousands of good paying jobs at its Elko area mines for many years. However, mining has several negative side effects. One of the most important impacts is the temporal and permanent losses of public lands and wildlife and aquatic habitat, caused by the massive land disturbances by mining. Many of our members have hunting and fishing licenses, and fish, hunt, hike, camp out and generally enjoy the recreational opportunities of Nevada, its mountain ranges, valleys, creeks, and the variety of wildlife that live here.

A The Newmont Bootstrap Mine could potentially cause the temporal losses of 1037 acres of lands, and the permanent loss of 264 acres of lands. These degraded areas will reduce the recreational opportunities for our members. The areas where our members can camp and fish and hunt will be further reduced. This is a significant and adverse impact. One purpose of our comments is to urge that these impacts be reduced and mitigated.

For these reasons BCT prefers the portions of Alternative A-1, involving the complete backfilling of the Bootstrap/Capstone pit. The BCT also recommends the portion of Alterative B which mandates ore processing at the North Area I each Facility. Implementation of the less consumptive land uses presented in these two alternatives, would potentially reduce the losses of lands by about 429 acres.

B The BCT is concerned that the DEIS, in calculating the benefits of filling the pits, did not appear to figure in a potential benefit from reduction of the waste rock piles. The waste rock areas could be much smaller in size, if part of the waste rock were backfilled into the pits.

For instance, the Tara waste rock pile would be reduced in volume by about 21 million tons, or about 25% under the backfill alternative (2-39). This reduction in waste rock pile volume could translate into a more compact waste rock pile and less site disturbance. That would be a potential additional benefit from backfilling a smaller waste rock pile.

The BCT disagrees with the DEIS conclusion that "no impacts were significantly changed" by backfilling (2-46). As mentioned above, it is likely that backfilling could reduce the size of a waste rock pile. This would make reclamation of the waste rock pile easier, more prone to success and less expensive. It would provide about 156 additional acres of lands for reclamation and post-mining uses. It would have significant beneficial visual impacts.

Letter 2 -- Building and Construction Trades Council of Northern Nevada

Response 2A

Newmont Gold Company has submitted a reclamation plan to BLM and NDEP which provides for the reclamation of land disturbed by mining at the Bootstrap Project site. The reclamation plan provides for establishment of post-mining land uses including wildlife habitat, domestic livestock grazing, dispersed recreation, mineral exploration, and aesthetic values. Newmont has also developed a Mitigation Plan that provides for continuation and expansion of wildlife habitat enhancement projects in the Carlin Trend area; see **Appendix A.**

Response 2B

As described on page 2-39 of the DEIS under Alternative A-1, complete backfill of the Bootstrap/Capstone pit would result in the recovery of approximately 100 acres of land surface. Based on an analysis of waste rock haulage, pit development, and ore production, the footprints associated with waste rock disposal facilities would not change as a result of partial or complete backfill of the Bootstrap/Capstone open pit. The Tara Waste Rock Disposal Facility is located on a sideslope directly adjacent to the Tara pit. Based on the existing topography and planned operational constraints, the waste rock pile was designed as narrow as possible. The Tara waste rock that could be placed as backfill in the Bootstrap/Capstone pit would reduce the overall height, but not the footprint, of the Tara Waste Rock Disposal Facility.

Complete backfilling and the resulting reduction in height of the Tara Waste Rock Disposal Facility would result in limited improvements to visual elements of the project site.

C The BCT also disagrees with the DEIS that the pit lakes would be aquatic habitat. The formation of pit lakes that contain water that violates water quality standards will potentially threaten the health of humans and wildlife, and should be prevented.

D If BLM decides not to require pit backfilling, the BCT also supports a requirement that Newmont should reclaim and restore the habitat values of at least 400 degraded acres offsite, as an alternative method of mitigating for permanent losses of 264 acres to the unfilled open pits.

Response 2C

Given the quality of water predicted to remain in the pit lakes after filling, it is possible that species of aquatic life which are tolerant of the water chemistry could establish themselves in the pit lake. The predicted water quality for the pit lakes could support many common species which inhabit natural lakes and streams.

Antimony is the only element predicted to exceed primary drinking water standards in the pit lakes. As indicated on page 4-16 of the DEIS, drinking water standards for all parameters in groundwater would not be exceeded after lake chemistry stabilizes. In addition, groundwater in which antimony exceeds the drinking water standard would extend a maximum of 2,500 feet downgradient of the pit; the antimony levels in this groundwater would be better than the drinking water standard by 300 years after infilling begins.

No domestic wells are located within 3 miles of the proposed Bootstrap Project. Human consumption of groundwater in the vicinity of the Bootstrap Project or pit lake water is unlikely.

The potential impact to wildlife resulting from exposure to antimony is considered negligible. According to Macler (1995), antimony has low toxicity and does not bioaccumulate with respect to wildlife.

As part of Newmont's Bootstrap Project Mitigation Plan Newmont would complete geochemical modeling every 5 years during the mine life of the Bootstrap Project; see **Appendix A.** Remodeling would allow the regulatory agencies to determine whether water quality deviates significantly from PTI's prediction and to develop appropriate mitigation to address any possible groundwater and surface water impacts.

Response 2D

Newmont has developed a mitigation plan which addresses habitat for mule deer and other game and nongame species which includes seeding of approximately 300 acres of mule deer transition range on public land. Please see the Bootstrap Project Mitigation Plan in **Appendix A** of this Final EIS.

HABITAT EVALUATION PROCEDURE (HEP) SUGGESTED TO MEASURE POTENTIAL MITIGATION

There is a potentially useful procedure for comparing the before and after project wildlife values, in order to determine if the reclaimed site and any offsite mitigation lands adequately compensate for the temporal and permanent losses of habitat. The procedure is the US Fish & Wildlife methodology of "Habitat Evaluation Procedures," in which the habitat in the areas to be degraded are scientifically studied, and a "Habitat Unit" score is awarded for the indicator species in the habitat that will be degraded and lost to the mining project. Then a HEP study is performed for the offered mitigation areas, and the reclaimed site, and the resulting "HU" scores are compared between the degraded areas and the proposed reclaimed site and the mitigation lands. A net increase in the available HU score for the reclaimed lands and replacement habitat would indicate lack of an adverse impact.

E The BCT suggest that any proposed mitigation lands be clearly identified. Then, careful HEP evaluation be conducted on both the site to be mined, and the potential mitigation lands, if any, and the reclaimed lands, to determine whether adequate mitigation and reclamation procedures are proposed for this project.

The HEP is a widely used and recommended method of evaluating impacts from projects, including hard rock metal mines in the west. HEP was recently employed to evaluate the potential impacts from the proposed Battle Mountain Crown Jewel Mine in eastern Washington, for instance.

Response 2E

BLM and NDOW have reviewed Newmont's mitigation plan and reclamation plan for the Bootstrap Project. Using empirical data developed from ongoing wildlife enhancement projects in the Carlin Trend, reclamation test plot information, and professional judgement, the agencies believe that mitigation and restoration plans associated with the project are adequate.

The Habitat Evaluation Procedure (HEP) was not used in the analysis of effects on wildlife for the Bootstrap Project for several reasons. Surveys have been conducted throughout the Carlin Trend area that provide baseline data on the wildlife species and habitats available. These surveys were in sufficient detail to analyze impacts from the Proposed Action. Increased levels of measurement or the use of indicator species would not change the analysis of impacts to wildlife.

The objectives of the reclamation plan and wildlife habitat mitigation programs are not to restore land to a condition which existed prior to mining. Much of the land currently being disturbed by mining was in a degraded (i.e., annual grass/weeds) or altered (i.e., crested wheatgrass) condition prior to mining. These conditions provided limited value to wildlife.

The reclamation goals are to stabilize the site, provide wildlife and livestock forage, provide wildlife cover, and minimize visual impacts. HEP procedures do not take into account the non-wildlife related aspects of reclamation. Soil microorganisms necessary for shrub establishment and proper nutrient cycling need to be developed, seedbed conditions for late seral species need to be developed, and control of noxious weeds and exotic annuals all need to be considered in reclamation planning. Reclamation of these sites is a long term process which begins with stabilizing the site with vegetation that will allow development of other land uses.

Ongoing mitigation projects in the Carlin Trend area have focused on rehabilitating areas dominated by annual plant species by establishing perennial grasses, forbs, and shrubs. These efforts provide for a variety of wildlife species as well as reestablishing the nutrient/energy cycling on these sites.

In all of these cases, the use of HEP is not necessary to evaluate the success or failure of reclamation or mitigation programs. The use of HEP is also confounded by the time element. In these arid regions (8 to 10 inches annual precipitation), successional processes take much longer. BLM's focus is on restoring the water, nutrient, and energy cycles and determining if the processes necessary to support a desired plant community are in place.

F One reason the BCT is concerned about losses of habitat on this site, is because of the potential impacts on Mule Deer. Increased mining and other developments, such as natural gas pipelines, is slowing but increasingly wiping out Mule Deer habitat. Even where habitat is not actually destroyed by mining, the noise of mining operations, its equipment and blasting, tends to drive away some animals (Table 3-19). Losses of habitat anywhere in Northern Nevada will increase pressure by hunters on any remaining herds. Some pronghorn antelope apparently use this area as range, too. Even if this is not prime pronghorn territory, the cumulative effect may be significant, and should be explicitly mitigated. (3-47)

G This project will also have adverse impacts on the current habitat for sage grouse, chukker, doves, partridge, and a variety of small mammals and the species that feed on them, including raptors. (3-48) Several threatened, endangered and candidate species are also potentially and actually present at this proposed mine site. It is for these reasons that the BCT urges use of the HEP to carefully and scientifically determine the net effect of this project on these various habitat types. The habitat values before and after the project should be compared, and any habitat losses should be mitigated.

H

RECLAMATION

The DEIS says that waste rock piles will be reclaimed to a slope of 2.5 to 1 (2-2). The EIS should have studied an alternative under which the reclaimed slopes of the waste rock area would be less steep, for instance, a slope of more than 3 to 1. Generally, the steeper the slope, the less successful the reclamation. Many experts, including publication by the EPA and the National Park Service, recommend slopes less steep than the slopes proposed in this DEIS. The EIS for the Bald Mountain Mine included discussion of less steep slopes at the reclaimed site, as a project alternative. This EIS should also have discussed a project alternative that would include slopes less steep than 3 to 1.

I

Response 2F

Comment noted.

Please see Bootstrap Project Mitigation Plan in **Appendix A**. Mitigation plans include enhancement of 300 acres of mule deer transition range and other wildlife habitat. Also see Response 1F.

Response 2G

Potential impacts to sage grouse, chukar, mourning doves, Hungarian partridge, and other small animal species are described on pages 4-28 and 4-29 of the DEIS. While habitat for these species will be disturbed during construction and operation of the Bootstrap Project, habitat is available in adjacent areas. Potential impacts to these species are expected to be minimal.

Response 2H

No threatened, endangered, or candidate species or their habitat would likely be affected by the Bootstrap Project. None of these species are known to use habitat on or near the Bootstrap Project site.

Response 2I

Many successful examples of slopes reclaimed at 2.5H:IV exist within the Carlin Trend. In the absence of any compelling geotechnical stability or reclamation issues associated with waste rock disposal facilities, there appears to be no reason to consider alternative slope configurations. Based on the seismicity of the project site, no stability problems are expected for any mine facilities. Also, based on data contained in Schafer (1995), soil erosion and vegetative cover are essentially identical between 2.5H:1V versus 3H:1V slopes.

Newmont's Mitigation Plan also describes varying the slope angle at numerous locations on the waste rock disposal facility. This method will result in more natural looking slopes at mine closure.

J Additional offsite mitigation lands may be needed because of many problems involved in reclaiming the mined lands. The EIS states that sagebrush habitat will be lost, and replaced with grasslands. The BCT contends that these grasslands are of lesser habitat value for many species and therefore additional reclaimed lands of shrub-dominated communities should be required to make up for the losses of sagebrush (4-26,31). The BCT also urges restoration of affected wetlands and riparian areas at a greater than 2 to 1 ratio, of restored wetlands to degraded wetlands, because wetlands and riparian areas provide water and habitat for many diverse types of wildlife. The BCT also supports an aggressive program of developing mule deer corridors. Again, the HEP measurements should be calculated to insure no net loss of mule deer habitat.

K

L

ON-SITE POWER GENERATION AND AIR QUALITY IMPACTS

M We are also concerned about the cumulative air quality in the Carlin Trend. When BLM prepared an EIS on the Barrick Goldstrike expansion, that air quality analysis indicated that each new mine and the related new equipment contributed to a gradual, but increasing impact on the areas' air quality. Since that EIS, there have been several additional mining projects, each with its additional air pollution impacts.

N The EIS failed to present air pollution measurements in the Carlin Trend area that are more recent than 1992, so the air quality impacts from the many recent additions of equipment and mining expansions during the last five years in this area, are not presented in the EIS. This is a serious failure in the EIS. It is likely that the Bootstrap mine presents a significant additional cumulative adverse impact on this areas' air quality particularly related to particulate matter, and the many toxic materials that represent a fraction of particulate matter, including silica.

O

Response 2J

As described on page 2-30 of the DEIS (Revegetation) and **Table 2-6** (Chapter 3; Errata in this document), the seed mix to be used for reclamation at the Bootstrap Project includes sagebrush and other shrub species.

Response 2K

No jurisdictional wetlands are predicted to be impacted by the Proposed Action or alternatives.

Response 2L

Mule deer corridors would not be impacted by the Bootstrap Project. See Response 2F for discussion on mule deer habitat mitigation.

Response 2M & N

Based on 1995 air quality monitoring data (See Errata **Table 3-5** for air quality data), air quality in the North Operations Area has remained better than National Ambient Air Quality Standards. It is predicted that the incremental contribution of particulate matter from the Bootstrap Project to total air quality conditions within the Carlin Trend would be minimal.

Measures to reduce fugitive particulate emissions from the haulage road to the North Area Leach Facility include road watering and the use of chemical binding agents. The haulage truck fleet in the North Operations Area is expected to remain at current operating levels while mining the Bootstrap Project. As a result, vehicle exhaust emissions would not increase over existing levels. The NDEP Bureau of Air Quality surface disturbance permit requires that fugitive dust from all disturbances be controlled at all times.

Response 2O

Ambient air quality information presented in Errata **Table 3-5** indicates that air quality standards are being met by current operations within the Carlin Trend. Because of source controls required by air quality permits and air quality regulations, the Bootstrap Project is not expected to contribute significant amounts of particulate matter to the airshed.

Now comes the Newmont Bootstrap project, which proposes several new air pollution sources, including a potential 3.5 megawatt power plant, consisting of diesel generators, under Alternative A, which will emit about 670 tons/year of additional air pollution. Alternative B would allow the emissions of 113 tons/year of air pollution from a smaller power plant.

P The BCT prefers to support project designs with reduced air pollution. If air quality is degraded severely in the Carlin Trend area, and air quality standards are violates, it is possible that further industrial development, including mines, will be banned or strenuously regulated. Those potential constraints on industrial development could cost our members jobs.

Q The BCT did not see an adequate justification in the DEIS to support on-site power generation through diesel fired generators, with the resulting significant and adverse impacts on air quality. Before the BCT could support on site power generation, and EIS should be prepared with a comprehensive discussion of the impacts from power plant, and an analysis of different designs and fuels that would reduce air quality impacts to insignificance.

For this and other reasons, the BCT supports a Bootstrap project that would use electrical energy generated at existing offsite power plants, for instance at Valmy and Fernley. Alternatives C-1 and C-2 involve this configuration.

ROAD PAVING ALTERNATIVE

R The BCT also believes that access and haul roads in this project should be paved, to reduce traffic generated dust. Dust from unpaved roads can total hundreds of tons of emissions of particulate matter (PM) every year. Recent studies show that PM is far more dangerous than previously realized, and the EPA is studying the lowering of the air quality standard for PM. The EIS neglected to inform its readers of the latest developments regarding the PM standards.

While there may be an initial cost associated with paving the road, over the mine's life the owner may realize a financial benefit, because of savings on tires and wear and tear on haul vehicles, and because hauling will proceed with greater speed.

The proposed surfacing of the road with waste rock (2-22) may wear out the truck tires more quickly, according to some texts:

"The amount of wear...depends largely on how abrasive or sharp the road is. Surfaces such as...gravel and crushed or blasted rock take tread off rapidly." (Endnote 1)

This text also compared tire life on different surfaces. Truck tire travelling on a road surfaced with blasted limestone, which is probably similar to the road surface material for the Bootstrap project, given the geologic description of the waste rock, will have only 1/2 the life of tires travelling on blacktop, for instance. (Endnote 2)

For instance, the recent EIS for the Kennecott Utah tailings expansion recently studied and approved the paving of a main haul road, concluding it would reduce air quality impacts and would be financially viable, by reducing the impact on equipment and by allowing faster truck haul speeds. The Echo Bay Mine in Nevada recently agreed to pave some County roads to mitigate for its air quality impacts.

Response 2P

As indicated in Errata **Table 3-5**, ambient air quality conditions within the Carlin Trend remain better than national standards. The addition of particulate matter sources associated with the Bootstrap Project are not expected to cause a violation of ambient air quality standards within the area.

Response 2Q

BLM's Preferred Alternative includes Alternative C-2. This alternative would be used in conjunction with Alternative B and would provide for off-site power supply for the Bootstrap Project. Alternative C-2 would eliminate the need for on-site power generation.

Response 2R

Construction and maintenance of paved roads to withstand use by heavy mining equipment would be cost prohibitive. See also Response 2M&N.

In other words, paving roads, including mine haul roads, will reduce air pollution and dust, and is economical because of reduced wear on equipment and tires, and has been proposed for other hard rock metal mines in the West. The DEIS should include a full discussion regarding paving of the mine's roads.

S

HEAP LEACH PAD DESIGN

This pad will apparently have only a single layer of synthetic liner. There is no evidence in the EIS that the compacted subsoil under that liner, will be sufficiently impermeable to protect the environment when the synthetic liner leaks. The EIS does not establish that the subsoil meets the criteria of BLM's Nevada Cyanide Management Plan at p.11.

T

Apparently, no wildlife protection measures such as netting will be required at the heap leach pad, until after wildlife mortality occurs (2-26). This may mean that protections would not be implemented until after the loss of wildlife, such as migrating avian species. If migrating fowl die at an unprotected leach pad, that would be a potential violation of federal law. But, a DEIS is required to consider whether this proposed mine "threatens a violation of Federal, state of local law or requirements imposed for the protection of the environment." (40 CFR 1508.27) (b) (10).

U

Allowing the operation of an unprotected leach pad threatens compliance with the Migratory Bird Treaty Act and should be considered in an EIS. An unprotected leach pad would also appear to violate BLM guidelines which require covering of open solution ponds. The EIS should state plainly what preventative measures will be employed to thwart wildlife mortality, prior to any losses, at the leach pad and open solution ponds at this mine.

V

WATER QUALITY AND QUANTITY

The Bootstrap pits will extend below the natural groundwater table. This project will not pump groundwater, because of current dewatering at the Betze/Post Mines. But the Bootstrap project will still intercept alluvial flows of less than 30 gallons/minute. This is potentially over 15 million gallons per year until the pit is filled. This will contribute to the cumulative interception, depletion and evaporation of groundwater in the Carlin Trend Area and the Humboldt River Watershed. Therefore the impacts from this project should be considered in the supplemental EIS that is underway on the cumulative impacts on groundwater and surface water in the Carlin Trend.

W

PIT WATER QUALITY

If the pits are not filled, then groundwater will gather and evaporate in those pits. The evaporation of groundwater will concentrate the pollutants in the groundwater. This could reduce the quantity and quality of the groundwater available for future water users.

The mining-related degradation and depletion of groundwater from this and other projects,including this project's inflow into the pit of perhaps 150 million gallons over the mine's life, is a significant adverse impact, and developments such as Bootstrap should not be permitted until the completion of the supplemental EIS regarding the dewatering at Barrick and the surrounding mines.

X

Response 2S See Response 2R.

Response 2T

BLM has identified Alternative B (Ore Processing at North Area Leach Facility) as a component of the Preferred Alternative. As such, leach grade ore would be placed on existing leach pad facilities at the North Area Leach Facility. No additional leach pads would be constructed at the North Area Leach Facility to accommodate Bootstrap Project ore.

Response 2U

Prior to construction and operation of the solution ponds associated with the Bootstrap Project, Newmont must obtain an Industrial Artificial Pond Permit from NDOW. As part of the requirements of that permit, no open solution ponds are allowed. The permit will also require that Newmont monitor for open solutions (e.g., ponding on top of the leach pile) during the life of the permit. Also see **Errata** for a correction to the Wildlife section on page 2-26 of the DEIS.

BLM has also selected Alternative B as a component of the Preferred Alternative for the Bootstrap Project. As such, no leach pad facility would be constructed at the Bootstrap Project site.

Response 2V

Response 2W See Response 2U above.

Comment noted.

Response 2X

Geochemical modeling completed to predict pit lake water quality for the Bootstrap Project included evaporation of water and the concentration of parameters that would result from that process (PTI 1995). This process was considered along with all other physical/chemical changes that would likely occur in the pit lakes. The quality of water which would ultimately reside in the pit lakes is predicted to meet NDEP water quality standards. As such, no adverse impact is expected to result.

Groundwater inflow to the Bootstrap/Capstone pit (estimated less than 30 gpm) would be used by the mining operation during the operational life. This water would be used for make-up supply for facilities.

Comments regarding completion of the Supplemental EIS for Betze/Post are noted.

Y The DEIS claims that backfilling of the pits would eliminate a source of water for wildlife. But the pit lakes admittedly would contain high levels of toxic materials, including antimony at levels exceeding water quality standards.

PIT WATER MAY DEGRADE GROUNDWATER: CONE OF DEPRESSION AT BETZE/POST WILL PULL BOOTSTRAP PIT WATER INTO THE GROUNDWATER AQUIFER

Even after dewatering cases at the Betz/Post pit, then the remaining Betze/Post groundwater cone of depression will still pull water out of the Bootstrap/Tara pits, into the groundwater. This could degrade the area's groundwater in violation of state regulations, because the water in the Bootstrap/Tara pit may be degraded, compared to the current groundwater. This is revealed by comparing Table 3-12 (pre-pit groundwater quality) to Table 4-7 (pit water quality).

Z The DEIS admits that for many years, groundwater will flow through the Bootstrap/Tara pits, towards the Betze/Post cone of depression: "(A)fter dewatering ceases at the Betze/Post Mine, there will be groundwater flow **into and out of the pits.**"(4-14) This outflow will continue for about 50 years. During its stay in those pits, the pit water may be degraded.

Response 2Y

As described on page 4-15 of the DEIS, concentrations of metals in the pit lakes are predicted to be relatively low, with the highest concentrations occurring in the first 50 to 100 years after infilling begins. Concentrations would decrease over time as water chemistry becomes dominated by surrounding groundwater.

Antimony is predicted to exceed the primary drinking water standard during the first 10 to 15 years of pit infilling for the Bootstrap/Capstone pit and during the first 100 years for the Tara pit. According the Macler (1995), antimony has low toxicity and does not bioaccumulate with respect to wildlife.

Response 2Z

As described on page 4-16 of the DEIS, groundwater transport modeling (PTI 1996) indicates that groundwater downgradient of the pits would be affected by antimony for a distance of less than 2,500 feet. The antimony levels in groundwater immediately downgradient of the pits would be better than the drinking water standard by 300 years after infilling begins.

NDEP, the agency responsible for regulating water quality in Nevada, has reviewed the results of the geochemical model and approved Newmont's application for a water pollution control permit modification for mining below the water table. Should refined water quality predictions in the future show a strong possibility of violating NAC 445A.429, Newmont would be required to propose and evaluate mitigation measures.

Because the Betze/Post pit represents the center of the cone of depression associated with dewatering activities at that facility, a gradient is established towards the Betze/Post pit. Once pumping ceases, groundwater will continue to flow towards the center of the cone of depression (i.e., the Betze/Post pit). The predicted groundwater flow direction in the Bootstrap Project area will also be towards the Betze/Post pit. Groundwater flowing into the Bootstrap/Capstone and Tara pits would also flow out of the pits toward Betze/Post. Residence time for groundwater in the Bootstrap Project pits is expected to be relatively minimal as stated on page 4-16 of the DEIS.

Due to dilution and attenuation of metals and other constituents of pit lake water as it flows through the pits and mixes with groundwater, minimal effect on groundwater quality is expected (see page 4-16 of the DEIS).

AA The EIS states pollution will increase by 100% to 350% in the pit lake water (4-14). The predicted concentrations of antimony, selenium, and mercury would exceed the background concentrations of those pollutants in groundwater. At the point when that degraded water flows out of the pit, into the groundwater aquifer, a potential violation of state law may occur.

INFILTRATION OF DEGRADED RAINWATER, GATHERED IN BOOTSTRAP/TARA PITS, MAY DEGRADE GROUNDWATER

It is possible that the Bootstrap/Tara pits will gather rainwater, even before the groundwater levels rises to the bottom of these pits. This is because during the winter and early spring months, it is likely that the amount of rain and snow falling into the pit will exceed the evaporation rates, because of the cool temperatures during those months. The gathered rainwater in the pit during the winter and early spring, will to some degree infiltrate into the groundwater. If that gathered rainwater picks up contaminants which are present at elevated levels, as indicated in the EIS (4-11), then the pit water would degrade groundwater in violation of state law. (Endnote 3)

BB

UNDER SLIGHT CHANGES IN MINING SCHEDULES, BETZ/POST DEWATERING MAY CEASE BEFORE BOOTSTRAP IS PLAYED OUT

The Bootstrap pits will also intercept the groundwater table after dewatering ceases, (4-57). The current dewatering at the Betze/Post pits is estimated to cease in 2006 (3-31) in 10 years. Since this project's mine life is about 7 years, it is possible that groundwater pumping and dewatering may then be needed for the Bootstrap project, if mining were to start in late 1997 and were to extend slightly beyond the seven year mine life estimate, and if the Betze/Post dewatering were to cease slightly before the 2006 estimate, this means that the Bootstrap project has the potential to need its own groundwater pit dewatering. This possibility should have been discussed in the EIS.

CC

Response 2AA

Pages 4-15 and 4-16 of the DEIS describe the potential effects of pit lake water on surrounding groundwater quality. The steady-state evaporative concentration factor (ranging from 1.0 to 3.5) was used in the geochemical model for the Bootstrap Project. See **Appendix A** and Response 2Z.

Response 2BB

Geochemical modeling, which predicts the potential effects of groundwater infilling in the mine pits after cessation of pumping at the Betze/Post Mine, indicates that exceedances of NDEP water quality standards are limited to less than 2,500 feet downgradient of the Bootstrap Project site.

The intermittent pooling and infiltration of water associated with precipitation events in the Bootstrap Project pits would not provide sufficient volume to overcome unsaturated flow conditions in the mine pit areas. It is unlikely that water associated with precipitation events would result in a steady-state recharge condition to the regional groundwater and therefore would not result in measurable changes in groundwater chemistry. See also Response 2Z.

Response 2CC

Predicted groundwater recovery after cessation of dewatering activities at Betze/Post is estimated to require 300 years to achieve steady-state conditions. Groundwater would not begin to fill the mine pits at the Bootstrap Project until 50 to 105 years after dewatering ceases at the Betze/Post Mine (see page 4-13 of the DEIS).

Interruptions to the mining schedule at the Bootstrap Project should not result in the need to activate dewatering systems at Bootstrap; unless those interruptions exceed 50 years.

POTENTIAL FOR ACID MINE DRAINAGE

The DEIS claims that the ore to be mined is non-acid generating. But there is evidently pyrite materials present (2-20,26). It is likely that acid mine drainage will be produced, at some point in the future form disturbed pyrite-bearing materials. Even though there are apparently limestone present as a buffering mineral in this matrix, on several occasions at other mines, over the long term, the buffering ability of acid consuming materials has eventually been consumed, and AMD has still resulted, according to published accounts:

> "Limestone has a low solubility in near neutral water, and the resulting alkaline charge is therefore small and may be insufficient to control AMD (acid mine drainage). Surface inflows tend to be concentrated at isolated locations such as depressions, cracks permeable zones, etc. At these locations the available alkaline materials are quickly exhausted. The addition of a basic layer would not significantly reduce AMD where unsaturated conditions predominate, such as in waste piles." (Endnote 4)

DD { This type of AMD problem has occurred even at mines such as Richmond Hill in South Dakota, where the acid generating materials have been "encapsulated" inside acid consuming materials. Given the possibility that the buffering materials will similarly be depleted at the Bootstrap, the EIS should fully discuss alterative mitigation for dealing with future AMD>

EE { The DEIS states that mining may already be responsible for elevated levels of contaminants in the creeks near the proposed project. Secondary drinking water standards are currently exceeded for arsenic, iron and manganese in creeks downstream from the proposed project (table 3-10). Any increases in discharges of these substances from the proposed project would contribute to existing violations of Federal and State Water Quality Requirement. This

FF { impact is likely according to the EIS, which states that impacts from the Proposed Action include: Changes in water quality due to sedimentation (4-20). Any impact that potentially contributes to a violation of Federal and State Requirements, including elevated levels of metals transported in increased sedimentation, should be mitigated.

GG { The mine pit will also decrease alluvial flows into Boulder Creek (4-10). This decrease in flows may tend to allow an increase in the concentrations of the substances that are already violating water quality standards on Boulder Creek. This impact, both in terms of water quality and quantity, should be mitigated.

Response 2DD

Ore produced at the Bootstrap Project will be primarily oxide ore with limited sulfide minerals remaining in the rock. Some ore production would include refractory ore. Refractory ore would be transported to bioleach facilities in the North Operations Area or to Mill #6 in the South Operations Area for processing. Refractory ore would be stockpiled or transported to Mill #6 in the South Operations Area for processing. If refractory ore stockpiles are not economical to process and it is determined that they are potentially acid producing, the stockpiles would be encapsulated in accordance with the Refractory Ore Stockpile and Waste Rock Dump Design, Construction, and Monitoring Plan (Newmont 1995a).

Based on methods developed by NDEP for evaluating potential for acid rock drainage (ARD) and standard acid-base accounting procedures, the waste rock materials associated with the Bootstrap Project would exhibit net neutralizing capacity. Also See Response 3F.

Response 2EE

Runoff water would be controlled by use of ditches to collect stormwater. Stormwater would be retained in a stormwater pond. Runoff water containing sediment would not be allowed to discharge from the Bootstrap Project site. See page 2-22 and **Figure 2-5** of the DEIS.

Response 2FF

Runoff control would be managed in accordance with Newmont's Stormwater Pollution Prevention Plan. The plan provides for use of Best Management Practices (BMPs) to control sediment and soil loss; BMPs would be used throughout the life of mine including the closure/reclamation period. No additional BMPs beyond those described in the Stormwater Pollution Prevention Plan are expected to be needed to mitigate sediment loss from the project site.

Response 2GG

Based on water quality information collected from Boulder Creek and associated alluvium, alluvial water quality has higher concentrations of certain parameters than stream water. For example, concentrations of arsenic, iron, and manganese in alluvial groundwater range from an order of magnitude to 2 times greater than the concentration of these parameters in surface water. Removing a portion of the alluvial aquifer flow that has higher concentrations of most constituents is not expected to degrade the quality of water which continues to flow in the aquifer and/or stream.

The EIS admits the potential for leachate entering ground and surface waters form the waste rock piles and the leach pad, but states that the net acid consuming character of the rocks, and the high evaporation at the site, will prevent release of leachate. However, as previously stated, encapsulating acid-generating rock has not worked at other locations, and during part of the year when temperatures are cool and rainfall is high, it is possible that rainfall amy exceed evaporation, thus allowing the formation and potential release of leachate.

HH

Response 2HH

The DEIS states on page 4-11 that "As a result, leaching of metals into the underlying groundwater system from waste rock probably would not occur (see Geology and Minerals section in this chapter)."

The design of the waste rock disposal facilities (slopes at 2.5H:1.0V) is such that infiltration is limited; the disposal facility design promotes runoff of precipitation. Limiting infiltration would result in less opportunity for leachate to form in the waste rock disposal facilities. Any leachate which would form would flow under unsaturated conditions into the foundation of the disposal facility where attenuation of metals and other constituents would take place.

Encapsulation of potentially acid-generating waste rock is an accepted method for control of ARD in Nevada. See Response 2DD and Response 3F.

POSSIBLE NON-COMPLIANCE WITH NEPA

The Boulder Creek diversion is an integral element of this project. The Bootstrap Mine could not proceed without this diversion. If there were no diversion, then the creek would flow into the Bootstrap/Capstone open pit (2-25). Yet the DEIS claims that this diversion is outside its scope. Federal regulations required "connected actions" to be considered together. Actions are connected if they "cannot or will not proceed unless other actions are taken previously or simultaneously." (Endnote 5)

The BCT contends that since excavation of the Bootstrap pit cannot proceed without first diverting Boulder Creek, then that diversion is a connected action, and should be carefully described in this DEIS. The DEIS does not inform reviewers how the Corps of Engineers permitting of that diversion complied with NEPA. It is possible that the separate permitting of this diversion is "piecemealing" of this project, which is not allowed under NEPA.

II

Response 2II

The Boulder Creek diversion was part of US Army Corp of Engineers (USCOE) 404 Permit application filed by Newmont in 1990. The 404 Permit application also incorporated a diversion structure for Rodeo Creek. Both diversion structures were authorized under an Individual Permit by the USCOE in November 1993 and the Boulder Creek diversion was constructed in 1995.

At the time of Newmont's 404 Permit application for these diversions there was no other pending proposal for federal action associated with the Boulder Creek diversion. Newmont had developed ore reserve information for the Capstone deposit. This deposit is located on private land controlled by Newmont.

Based on the configuration of the Capstone ore deposit, development of the deposit would require that Boulder Creek be diverted around the open pit. In subsequent years, Newmont continued to explore and evaluate the ore deposit in the Capstone area. Exploration activities discovered additional ore in the Bootstrap and Tara areas. Newmont is pursuing the necessary permitting actions to bring these ore deposits into production.

POWER LINE BURIAL SHOULD BE CONSIDERED

JJ The BCT believes that the DEIS should have examined burying the electrical line to this project, to eliminate potential collision and electrocution harms to avian species, especially raptors. Power lines are frequently buried for developments on and near public lands, especially where raptor protection is an issue. Buried power lines have greater reliability because of its protection from weather-related damage, such as high winds and heavy snows. (Endnote 6)

SOCIO-ECONOMIC IMPACTS

The DEIS stated that the police and fire departments, the schools, health care, housing, and sewage treatment in the Elko/Carlin area are all stressed by the rapid development in the area, which is largely attributed to the increased area mining and related employment increases. Some of these impacts, for instance on law enforcement and schools, may be caused in part by the Mine's frequent practice of importing workers from out of the local area, especially construction workers. For a recent mine expansion at Barrick, the EIS stated that 70% of the construction work force would be imported.

KK The BCT contends that this practice of importing out of area workers, worsens the socioeconomic impacts from mining. This is because the imported workers cause increases in the need for services such as police and schools, and the imported workers often come and go without ever paying their fair share of taxes to fund local services.

To some degree, this problem is reflected in Table 3-29, which shows unemployment in Eureka County increasing even while the labor force grows. This trend is especially marked in construction, where the Eureka County construction work force increased 275% from 1993 to 1994, while general unemployment in Eureka County still rose from 7.3% to 9.5%. This trend indicates that the local communities are not reaping all the benefits of the mining and mine construction boom, in part because of the importation of out of area workers.

Response 2JJ

Powerlines are not typically buried at mine projects because of the risk that excavating equipment may inadvertently dig up the line. Inadvertent excavation of the power line system would be hazardous. Installation and relocation of buried power lines would increase disturbance. Above ground powerlines are easier to inspect and maintain compared to buried power lines.

Response 2KK

Comment noted.

In Contrast, if the mines had hired construction contractors who chose their workers from the local labor pools, those workers and their families are already living in the area, their children are already in the schools and being serviced by local agencies, and these workers and their families have been paying taxes for many years, so the socio-economic impacts would be far less.

Another illustration of these socio-economic impacts from out of area workers at these mines occurred recently in White Pine County, during the construction of the new Magma Robinson Mine facilities during 1995. In that instance, the majority of the mine construction workers were imported from other states, rather than being hired locally. The County sheriff's Department carried a heavy burden because of the large increase in crime that accompanied the importation of the construction work force. The 1995 arrest rate rose by over 80% over the 1994 arrest rate. (Endnote 7) This example illustrates the scope of socio-economic impacts caused by importing out of area workers.

LL The BCT asks that the EIS analyze and contrast project alternatives under which the mine would mandate that its' construction contractor hire a high percentage of local workers, rather than import the vast majority of its work force as a method of reducing socio-economic impacts.

MM Alternatively, the BCT request that the EIS closely analyze the socio-economic impacts on all services that can be attributed to the mine expansion, and the mine owner be required to make mitigation payments to the service agencies.

ENDNOTES

1. Nichols - Moving the Earth - Second Edition P.12-119
2. Nichols - Fig. 12-117
3. From November through May, the maximum temperature is only 77 degrees, while about 7 inches of rain falls, on average. It is likely that much of this rainwater will not evaporate and will remain in the post-mining pits, during the period of November-May. This would cause the collection of about 50 million gallons of water in those pits every winter and spring, which potentially would in part infiltrate into the groundwater.
   7 inches of rain- about .6 acre-feet, times 265 acres of pit area, equals about 158 acre feet, equals about 50 million gallons.
4. Vancouver Geotechnical Society. Geotechnical Aspects of Tailings Disposal and Acid Mine Drainage. May 26, 1989 p.9
5. Save the Yaak Committee v. Block, 840 F 2nd 714,719 (9th Cir.1988) and 40 CFR 1508.25 (a) (1)(ii).
6. See for instance, FERC.No. 8864-009, Calligan creek, 10-18-93. "The licensee proposes the (2.5Mile) new (underground) line because of its improved reliability and decreased environmental impacts. The new line would not be subjected to damage by wind. Maintenance costs would be less. An underground line would not be hazardous to raptors and would eliminate the visual impacts."

Response 2LL

Page 4-50 of the DEIS concluded that the socioeconomic impacts associated with the construction work force would be minimal.

The Preferred Alternative identified by BLM would eliminate the majority of the construction work force for the Bootstrap Project under Alternative B (Ore Processing at North Area Leach Facility). The primary facility to be constructed under the Proposed Action would be the leach pad, ancillary pond system, and solution processing buildings. With implementation of Alternative B, the only significant construction project associated with the Bootstrap Project would be haul road construction. The construction work force to complete haul road construction exists in the Elko area.

Response 2MM

As stated in Response 2LL, the construction work force necessary to complete construction activities under Alternative B would be minimal. Project operations would be undertaken by the existing workforce in the North Operations Area.

7. The combined totals of felonies, misdemeanors, and drunk driving arrests in White Pine County rose 82% during 1995, compared with 1994. The main construction effort at the Magma Robinson Mine started in early 1995, although some site work began in late 1994.

	1994	1995
Driving Under(the influence DUI)	45	77
Felony Arrests	27	57
Misdemeanor Arrests	193	348
Traffic Accidents Investigated	284	390
Citations	622	910

Letter #3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 29, 1996

Deborah McFarlane
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, NV 89801

Dear Ms. McFarlane:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Bootstrap Project, Elko and Eureka Counties, Nevada**. Our comments are provided pursuant to our responsibilities under the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Clean Air Act Section 309.

The DEIS evaluates alternatives for expansion of a gold mine by Newmont Gold Company. The proposed alternative involves re-opening the Bootstrap/Capstone pit, development of the Tara pit, construction of two new waste rock disposal areas and a new heap leach facility, upgrading of haul roads, and construction of ancillary mine facilities, including an on-site power substation. BLM's preferred alternative involves transporting leach ore to an existing heap leach facility at Newmont's North Operations area rather than constructing a new leach facility at the Bootstrap site (Alternative B). The preferred alternative would also preclude an on-site power substation (Alternative C2). Alternative A1 (Complete Backfill of Bootstrap/Capstone Pit) and Alternative A2 (Partial Backfill of Bootstrap/Capstone Pit) are also considered in the DEIS.

A It appears that BLM's preferred alternative would reduce the project's impacts relative to Newmont's proposed alternative. However, we believe that incorporating either Alternative A1 or A2 into the preferred alternative would further reduce impacts from the project. Given the reduced impacts associated with Alternatives A1 and A2, we urge BLM to seriously consider incorporating one of these alternatives into the preferred alternative.

We have rated this DEIS as EC-2 (Environmental Concerns -- Insufficient Information (see the enclosed "Summary of Rating Definitions and Follow-Up Actions"). Our "EC" rating is based on

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Letter 3 – United States Environmental Protection Agency; Region IX

Response 3A

our concerns regarding the preferred alternative's potential impacts to water quality. Our "2" rating is based on the need for additional information in the Final Environmental Impact Statement (FEIS) regarding impacts to water and air quality, wildlife, and wetlands; as well as cumulative impacts; mitigation; and waste rock characterization and handling. Our specific comments are enclosed.

We appreciate the opportunity to review this DEIS. Please send a copy of the FEIS to this office when it is officially filed with our Washington, D.C., office. If you have any questions, please contact me at (415) 744-1584 or Jeanne Geselbracht at (415) 744-1576.

Sincerely,

David J. Farrel, Chief
Office of Federal Activities

enclosures

002342/96-095

cc: Doug Zimmerman, NDEP
Kevin Roukey, U.S. Army Corps of Engineers - Reno
John Miesner, U.S. Fish and Wildlife Service - Reno

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

Alternatives

It appears that BLM's preferred alternative would reduce the project's impacts relative to Newmont's proposed alternative. Alternatives A1 and A2 (Complete and Partial Backfill of Bootstrap/Capstone Pit) would appear to further reduce the potential impacts of the project. Incorporating either Alternative A1 or A2 into the preferred alternative would increase the amount of disturbed area that would be reclaimed, reduce the height of the Tara Waste Rock Disposal Facility by 120 feet, and preclude the formation of pit lakes in the Bootstrap/ Capstone pit. Furthermore, the DEIS (p. 4-50) states that implementation of either of these alternatives would result in socioeconomic impacts similar to those described for the proposed action. It is unclear, therefore, why either Alternative A1 or A2 was not included in the preferred alternative. In light of the reduction of impacts that either Alternative A1 or A2 would have on resources in the Bootstrap/ Capstone pit, we urge BLM to seriously consider incorporating one of these alternatives into the preferred alternative.

B

Water Quality

Pit Lakes

Predicted concentrations of antimony, mercury, and selenium in the Tara and Bootstrap/Capstone pit lakes would exceed background groundwater concentrations, and antimony would exceed the primary drinking water standard (p. 4-15, 16). Secondary drinking water standards for sulfate and aluminum could be exceeded as well. Pit waters would degrade groundwater to some distance downgradient of the pits until attenuation and dilution of metals approach background conditions. EPA has serious concerns that the project would degrade groundwater as a result of subsurface flow of contaminated pit water out of the pits. This also would appear to conflict with BLM's Nevada Cyanide Management Plan and Nevada Division of Environmental Protection's (NDEP) Regulations Governing Design, Construction, Operation and Closure of Mining Operations (445.24342), which prohibit degradation of groundwater by mining facilities. The FEIS should discuss whether the proposed project would conflict with BLM and NDEP policies and/or regulations. The DEIS indicates that monitoring would be conducted to determine groundwater recovery/quality as the pit lakes develop after cessation of mining. However, there is no discussion of potential mitigation measures. The FEIS should discuss how impacts to groundwater would be mitigated to ensure against degradation.

C

Comment noted. See Response 1A.

Response 3B

BLM has determined that complete or partial backfill would not result in any advantage to wildlife, water, or land use resources as compared to the Proposed Action. Complete backfill would cause a significant modification to Newmont's mining sequence for the Bootstrap Project. See Response 1A.

Response 3C

See Response 2X and 2Z. NDEP has determined that Newmont would be required to propose and evaluate mitigation measures should future information show a strong possibility of violating NAC 445A.429. Compliance with NDEP requirements satisfies guidance contained in BLM's Nevada Cyanide Management Plan. In addition, Newmont would recalibrate and complete geochemical modeling every 5 years during the mine life to refine predicted water quality associated with the Bootstrap Project; see Bootstrap Project Mitigation Plan in **Appendix A**.

Waste Rock Characterization and Handling

Newmont has proposed to use an acid neutralization potential: acid generalization potential (ANP:AGP) ratio of 1:1 as the threshold above which material would be considered nonacid-generating and, therefore, would not be specially handled during disposal. EPA believes a more conservative 3:1 ratio should be used as the threshold below which material would be specially handled for disposal, and we urge BLM to adopt this threshold for the Bootstrap project. The DEIS states that 70 percent of the waste rock has a weighted average ANP:AGP ratio of 3,400:1, and the remaining 30 percent of the waste rock also has a weighted average ANP:AGP of greater than 1. It is unclear how much of this remaining 30 percent lies in the range of uncertainty between 1:1 and 3:1. The FEIS should provide this information and discuss in more detail how waste rock would be characterized and disposed on the Bootstrap project. A detailed summary of the Waste Rock Characterization and Management (WRCM) Plan should be included in the FEIS. We have the following recommendations regarding the WRCM Plan:

D

Response 3D

Considering 100% of the rock material associated with the Bootstrap Project, the overall weighted ANP:AGP ratio is 268:1. Of the total 116 million tons of rock material to be extracted at the Bootstrap Project, only 85,000 tons would have an ANP:AGP ratio of less than 3:1.

Newmont has developed the Refractory Ore Stockpile and Waste Rock Dump Design, Construction, and Monitoring Plan (Newmont 1995a) to minimize potential for acid drainage by control of the acid generation process. Procedures identified for controlling acid generation include:

Potentially Acid Generating Waste Rock

- Segregation and placement of sulfide waste rock in internal areas of waste rock dumps above a prepared base;
- Total enclosure or encapsulation of the sulfidic waste rock zone with non-acid producing material;
- Careful sloping and random wheel compaction of individual lift surfaces;
- Control of surface water flow to prevent infiltration;
- Placement of a low permeability cap over the final encapsulation cell;
- Reclamation of waste rock dump, including establishing vegetation, to minimize water infiltration.

Refractory Ore

- Placement of refractory ore on a low permeability base;
- Careful sloping and random wheel compaction of individual lift surfaces;
- Control of surface water flow to prevent infiltration.

E - The plan should identify the tests that would be used to characterize the rock and the threshold values that would be used to determine whether rock would be acid-generating and require special handling. The waste rock should be sampled at adequate densities and frequencies for each geologic unit and be characterized chemically and/or visually prior to placement in the dumps. Verification of visual characterization methods should be addressed as well.

F - The DEIS (p. 4-2) generally describes isolation of acid-generating rock within the dumps. The WRCM Plan and FEIS should include more detail on construction of the dumps, including thickness and permeability of the base and cover, and the criteria that would be used to determine adequate material for these portions of the dumps.

G - Proper mixing and isolation of acid-generating material with neutralizing material is important to prevent acid drainage from the waste rock piles. If a significant amount of acid-generating material were found and disposed of in the waste rock piles, we recommend an appropriate cap, in addition to isolation of material within the dumps, to reduce infiltration of meteoric water.

H The FEIS should discuss whether any special handling of the spent ore from the original Bootstrap Heap Leach Facility would be necessary for incorporation into the Bootstrap/Capstone Waste Rock Disposal Facility.

Response 3E

Newmont has characterized the waste rock associated with the Bootstrap Project in accordance with the Waste Rock and Overburden Evaluation Guidelines (NDEP 1990). Newmont would continue to utilize this guideline during the life of the operation. Classification of rock material is by net acid-generation potential using the acid-base accounting procedure and the Net Carbonate Value system. Visual sulfide classification of waste rock is conducted by Newmont geologists from in-pit samples and blasthole drill cuttings. Should potentially acid-producing rock be identified, Newmont would dispose of the waste rock according to the Refractory Ore Stockpile and Waste Rock Dump Design, Construction, and Monitoring Plan (Newmont 1995a). See page 2-26 of the DEIS (Potentially Acid-Producing Rock) and Response 3D.

Response 3F

NDEP has approved Newmont's Refractory Ore Stockpile and Waste Rock Dump Design, Construction, and Monitoring Plan. As part of that approval, Newmont provides site-specific designs to NDEP for review. The design must comply with NDEP water quality standards. BLM also monitors site conditions through their ongoing mine inspection programs.

During mining operations, waste rock that is determined to be potentially acid-producing would be encapsulated within the waste rock disposal facilities. To evaluate and predict isolation of waste rock from meteoric water, a study was commissioned to model the waste rock pile for water mobility. Brown and Caldwell (1996) conducted modeling to simulate precipitation infiltration and transport through the waste rock pile. The model results indicate that water would not infiltrate through the bottom of the waste rock pile within 100 years after it is reclaimed. See **Appendix B** of the FEIS.

Response 3G

Comment noted. See Response 3F.

Response 3H

Spent ore associated with the original Bootstrap Heap Leach Facility has been reclaimed; therefore, no special handling is anticipated for the reclaimed facility.

Clean Water Act Section 404

We understand that the Boulder Creek diversion has washed out in several places even though a 100-year/24-hour storm event, for which the diversion was designed, has not occurred. According to the Section 404 permit, the diversion is to be maintained in good condition and monitored for erosion to ensure that it handles all flows as designed (DEIS, p. 2-6). The FEIS should discuss how procedures for monitoring and maintenance will be improved to ensure against such washouts. Furthermore, it is unclear why the diversion would only be monitored for three years. The diversion should be monitored for erosion over the entire project period and reclamation requirements should ensure its long-term integrity to prevent washouts into the pit. I

The FEIS should describe the mitigation measures that were approved as a condition of the Section 404 permit for the Boulder Creek diversion. The FEIS should also describe any additional mitigation measures that would be required by either the Corps of Engineers or the BLM for the additional impacts to waters of the U.S. that would result from the new road crossing at Bell Creek. J

Response 3I

The Boulder Creek diversion was permitted by the U.S. Army Corps of Engineers (USCOE) in 1993. The USCOE maintains authority to require monitoring and maintenance of the diversion.

Response 3J

USCOE has approved a wetland replacement mitigation plan as part of the 404 Permit issued in 1993. The wetland mitigation was constructed in 1995.

Newmont applied for authorization to construct the Bell Creek road crossing under a Nationwide 14 Permit to the USCOE. The USCOE has reviewed the permit application and has determined that no mitigation measures are necessary as a result of the road crossing. USCOE will issue the permit for the Bell Creek road crossing once BLM has issued the Record of Decision for the Bootstrap Project.

Air Quality

Relative to Newmont Gold Company's (Newmont) proposed alternative, the BLM preferred alternative would reduce impacts to some resources such as soils, vegetation, and watersheds. It is not completely clear from the DEIS, however, what the impacts from the preferred alternative would be to air quality. For example, under the preferred alternative, ore would be hauled from the Bootstrap site to the North Operations Heap Leach Facility for processing. What would the additional air emissions be from the extra haul distance under the preferred alternative? (Note: The DEIS, p. 4-7, states that 17 haul trucks per hour would travel to the North Operations Leach Facility. The DEIS, p.2-40, specifies seven trucks per hour. Please clarify this discrepancy).

K

L

Soils and Watersheds

According to the DEIS (p. 2-38), erosion monitoring would be conducted annually to determine reclamation success. It is unclear that this would be frequent enough, especially during wet months, and in light of the washouts that have already occurred on the Boulder Creek diversion. In addition to annual inspections, BLM may wish to consider monitoring on an as-needed basis such as after large storms.

M

Response 3K

See Response 2M&N

Response 3L

Page 2-40 of the DEIS contains a typographical error; the text should read 17 trucks per hour. See Errata for this correction.

Response 3M

BLM conducts formal compliance monitoring annually and informal inspections more frequently. BLM will likely inspect the project site after large storm events. Newmont personnel would be on-site continuously and would conduct erosion monitoring frequently.

Biological Resources

N Impacts from interrupted drainage resulting from the mine pits and the Tara Waste Rock Disposal Facility could adversely affect 16 acres of Bell Creek floodplain. In addition, cumulative impacts of dewatering of the Betze/Post pit could adversely affect 8.3 acres of seeps along the western project boundary. We recommend that all such impacts be appropriately mitigated. The FEIS should discuss how these impacts would be mitigated.

O According to the DEIS (p. 2-26), "if a given site contributes substantially to wildlife mortality, BLM and NDOW would be consulted and appropriate mitigation measures would be employed to reduce or eliminate the problem." The FEIS should define what is meant by "contributes substantially."

P Elimination of the leach pad at the Bootstrap site would reduce wildlife mortalities at that site. However, the incremental additional wildlife mortalities at the North Operations Leach Pad and along the haul road have not been identified. The FEIS should describe these impacts. In addition, the FEIS should discuss how Newmont would reduce mortalities at its North Operations Leach Pad, which have occurred despite the company's efforts to prevent them (DEIS, p. 4-30).

Cumulative Impacts

Q We understand that Mill and Tailings Facilities #4 and #6 are already permitted under the North and South Operations operating permits. However, the FEIS should describe the impacts from the preferred alternative on these facilities and their direct and cumulative impacts on air and water quality.

Response 3N

BLM has determined that neither the mine pits nor the Tara Waste Rock Disposal Facility would affect the Bell Creek floodplain. The toe of the proposed facility would be above the projected 100 year floodplain of Bell Creek.

The BLM addressed impacts of the Betze/Post Mine operations to the potential loss of riparian and wetland areas by having Barrick establish an interest-bearing trust fund under BLM's discretion for use in riparian enhancement projects.

Response 3O

A revised statement is included in the Errata section of this FEIS. Also see Response 2U.

Response 3P

The potential increase in wildlife mortality along the proposed haul road to the North Area Leach Facility was analyzed and was determined to be insignificant. Newmont's records show one mule deer mortality involving a haulage truck since 1993. According to NDOW (see Letter 1), mule deer have changed their migration routes to move away from mine activity in the Carlin Trend area.

The North Area Leach Facility would not increase in size as a result of implementation of Alternative B; therefore, no additional wildlife mortality is anticipated. Newmont's compliance with their Industrial Artificial Pond Permits, which include the practices of netting and fencing of ponds and maintaining non-lethal cyanide concentrations, minimize wildlife mortalities.

Response 3Q

The South Operations Area Project EIS describes the haulage of refractory ore from the Newmont's North Operations Area and the processing of that ore in Mill #6. The impacts to air quality and water resources which may result from processing refractory ore from the North Operations Area is described in that document.

Oxide mill-grade ore produced from the Bootstrap Project would be processed in the existing Mill #4 facility. Mill tailing would be deposited in the existing Mill #4 Tailing Storage Facility. No modification or expansion of the Tailing Storage Facility beyond the currently permitted capacity would be required to process this ore. The impacts to air quality and water resources would be similar to those that currently exist.

Letter #4

Sierra Pacific
POWER COMPANY
Meeting your future with energy

6100 Neil Road, P.O. Box 10100 • Reno, Nevada 89520-0024 • 702.689.4011

April 12, 1996

Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, NV 89803

Attn.: Deb McFarland

Re: N16-94-002P Bootstrap Project EIS

Dear Ms. McFarland:

Thank you for allowing Sierra Pacific the opportunity to comment on the above referenced EIS.

Sierra offers the following comments:

A
- On Figure 2-2 and Figure 2-10, the existing powerline identified as N-38874 does not originate at the Shelton Substation nor is it electrically connected to the shown substation in any way. This is a 60 kV line which is an extension of an older line that originates in Battle Mountain and terminates at the Dee Gold Mine. The station identified as a power substation on both figures is actually a 120 kV switching station. There is no voltage reduction equipment located within the station.

B
- With regard to the proposed alternate C on Page 2-4 and as shown in Figure 2-10, no studies have been completed to determine if the existing 60 kV line could reliably handle the additional load requirements of the Bootstrap Project.

C
- At the request of Newmont, Sierra Pacific would be willing to provide such a study and include an alternative of tapping the 120 kV line shown on Figure 2-2 (N-53160). At the completion of the study, Newmont can then determine which would be the more feasible alternative for supplying energy to their project.

Again thank you for allowing Sierra Pacific the opportunity to comment on this EIS. Should you have any questions, please feel free to call me at 689-4432.

Sincerely,

Robert J. Edwards
Manager, Right-of-Way/Real Property

RJE/bk

Letter 4 – Sierra Pacific Power Company

Response 4A

Figures 2-2 and 2-10 have been revised to correct the powerline designation. See Errata.

Response 4B

Newmont has contacted Sierra Pacific concerning their ability to supply the additional load requirements of the Bootstrap Project. Sierra Pacific would be able to serve the Bootstrap Project from the existing power line shown in the DEIS.

Response 4C

Comment noted. Also see Response 4B.

Letter #5

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO ATTENTION OF

April 11, 1996

Regulatory Branch (199625029)

U.S. Bureau of Land Management
ATTN: Deb McFarlane
Elko District Office
P.O. Box 831
Elko, Nevada 89801

Dear Ms. McFarlane:

I am responding to the Draft Environmental Impact Report for BLM - BOOTSTRAP PROJECT EIS, our ID Number 199625029.

The Corps of Engineers jurisdiction within the study areas is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States or excavation that has more than minimal effect on the aquatic environment in these waters. Waters of the United States include, but are not limited to, the following: perennial and intermittent streams, lakes, ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. Project features that would occur from development within the study areas that result in the discharge of fill material into waters of the United States will require Department of the Army authorization prior to initiating work.

A The range of alternatives considered in an EIS should include alternatives to fill in wetlands or other waters of the United States within the study area. Every effort should be made to avoid project features which require the discharge of fill into waters of the United States. In the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the losses resulting from project implementation.

We have the following comments on the subject Draft EIS:

B AUTHORIZING ACTION (Pg 1-2) - States that " Newmont is in the process of applying to the U.S. Army Corps of Engineers for an amendment to the Section 404 Clean Water act Permit Number 199300369. The permit amendment would address the haul road crossing on Bell Creek that would be used as pat of the Bootstrap Project." COMMENT: We have authorized the proposed haul road under a Nationwide Permit 14, ID Number 199625028, pending completion of the ROD for the subject EIS.

Letter 5 -- Department of the Army; U.S. Army Corps of Engineers

Response 5A

No wetlands of the United States would be affected by the Bootstrap Project. USCOE has granted authorization to discharge fill material to waters of the United States for the construction of two haulage road crossings under Nationwide Permit Number NW14. The Nationwide Permit will become effective upon receipt of the Record of Decision for this EIS. Every effort would be made to avoid project features which require the discharge of fill materials into waters of the United States.

Response 5B

Comment noted.

VEGETATION (pg 3-44) - States that "Nine wetland areas have been inventoried by JBR(1990b) within the Bootstrap Project area." The list of references indicates JBR(1990b) as Newmont Gold Company Rodeo Creek and Boulder Creek Jurisdictional Wetland Surveys. Prepared for Newmont Gold Company. COMMENT: This Survey is not the current valid delineation for the proposed project area. The Corps verified, by letter dated October 4, 1993, the " NEWMONT GOLD COMPANY, NORTH OPERATIONS AREA, DELINEATION OF WETLANDS AND OTHER WATERS OF THE UNITED STATES, prepared by EIP Associates, dated July 1993 ". That verified report should be cited and referenced in the FEIS and FIGURE 3-10 should be revised to contain the information from the verified map contained in that report.

C

DIRECT AND INDIRECT IMPACTS (pg 4-9) - States, " This Boulder Creek diversion was previously permitted by the USCOE, and Newmont completed construction of the structure in 1995." COMMENT: This activity was Permitted under permit number 199300369 and the FEIS should contain that reference.

D

If you have any questions, please write to Mr. Kevin Roukey at our Nevada Field Office, C. Clifton Young Federal Building, 300 Booth Street, Room 2103, Reno, Nevada 89509, telephone (702) 784-5304, FAX (702) 784-5306. We appreciate the opportunity to be included in your review process..

Sincerely,

Kevin J. Roukey
Chief, Nevada Office

Response 5C

Figure 3-10 has been revised to incorporate information contained in "Newmont Gold Company, North Operations Area, Delineation of Wetlands and Other Waters of the United States" prepared by EIP Associates (July 1993). The reference list has also been revised to incorporate this reference. See Errata section.

Response 5D

USCOE Permit No. 199300369 has been added to the reference list for the EIS. See Errata section.

Letter #6

EUREKA COUNTY
PUBLIC LAND ADVISORY COMMISSION
PO BOX 682
EUREKA, NV 89316
FAX: (702) 237-6012 TELEPHONE: (702) 237-6010

April 29, 1996

Deb Mc Farlane, EIS Project Manager
BLM / Elko District
PO Box 831
Elko, NV 89801

Dear Ms Mc Farlane,

I wish to submit the following comments concerning the Bootstrap Project Draft EIS:

A
- **Human Health and Safety, General Requirements, p 2-26** - DEIS states "Traffic control would include Newmont personnel stopping traffic along the road at distances of 2,500 feet or more from the Bootstrap Project site." A portion of the Dunphy road is a designated Eureka County Road G-237 and the frequency and duration of traffic stops should be mitigated with Eureka County.

B
- **Access and Land Use, p3-56 and p4-38** - These sections do not mention that traffic will be stopped on the Dunphy road for safety reasons. These traffic stops should be discussed in terms of frequency and duration. Chapter 4 should also include potential mitigating measures for these traffic stops. Mitigating measures might include, among others, establishing set times for traffic stops, posting of set times on Dunphy Road, providing turn outs at traffic stop locations, providing trash cans and removal at turnouts, and assurance that Dunphy Road will remain open to the public.

C
- **Recreation and Wilderness, p3-55 and p4-37** - These sections do not explore the potential for recreation with pit lakes after mining is completed. Is it possible to assess pit lakes for recreational purposes (fisheries) in chapter 4 of the Final EIS?

Thank you for the opportunity to comment.

Sincerly
John Balliette
Contractual Reasource Manager

cc: Eureka County Commissioners
Eureka County Distric Attorney
Eureka County PLAC

Letter 6 -- Eureka County Public Land Advisory Commission

Response 6A

Comment noted.

Response 6B

Occasional road closures for mine blasting would be necessary. Road closures would be minimized as required for efficient mining operations. Newmont has developed traffic control procedures to address mine blasting safety. Blasting would be scheduled at regular intervals. Daily communications would be maintained with affected parties. All roads affected by blasting would be posted with blasting/road closure notification. A telephone number would be posted to provide details of current blasting schedules. See Appendix A - Bootstrap Project Mitigation Plan.

Response 6C

Pit lakes which would form in the Bootstrap/Capstone pit after cessation of pumping at the Betze/Post Mine are located on private land. Because of safety and liability issues, it is Newmont's policy to not allow public access to these areas.

The Tara pit is located on public land; therefore, the pit-lake which would form in the Tara pit may be accessible to the public. Recreational use of the Tara pit-lake is beyond the scope of this document.

Letter #7

Dee Gold Mining Co.

Presented and hand delivered on March 26, 1996.

INTRODUCTION:

My name is John Barber.

I am the Environmental Coordinator at Dee Gold Mining Co. (DGMC) I am here to present DGMC's comments on the Bootstrap DEIS.

DGMC is owned and operated by Rayrock Mines Inc. which also operates the Marigold Mine at Valmy, Nevada and the Pinson Mine at Golconda, Nevada. DGMC is located on the Carlin Trend, North of Newmont Gold's North Area and Barrick Goldstrike Mines. Approximately 33 miles northwest of Carlin, Nevada.

Rayrock has operated the Dee Gold Mine since 1985, and recognizes that Newmont has been a very accommodating neighbor. DGMC's comments are offered in the spirit of cooperation, and we are fully aware of the lengthy process of permitting through NEPA. DGMC feels that the Bootstrap DEIS is an acceptable document. However we wish to emphasize several issues if they have not been previously considered.

Please consider the following issues:

SAFETY:

1. Blasting: Page 2-28, Human Health and Safety, General Requirements. Paragraph 2 states, "Newmont would control traffic along the Dunphy Road during blasting periods at the Bootstrap Project. Traffic control would include Newmont personnel stopping traffic along the road at distances of 2500 feet or more from the Bootstrap Project site. Traffic would be allowed to resume after blasting is concluded."

A A. The DEIS proposal for traffic control while blasting could, for an unspecified period of time, close access to the DGMC site (see attached figure). The loss of access would adversely impact the mutual aid agreement (for Evacuation, first aid transport, chemical spills,...etc.).

P.O. BOX 1193 ELKO, NEVADA 89803 702-738-8440

Letter 7 – Dee Gold Mining Company; March 26, 1996

Response 7A

Newmont Gold Company has reviewed Dunphy Road closure procedures during blasting events at the proposed Bootstrap Project with Dee Gold Mining Company. See response 6B and Bootstrap Project Mitigation Plan, Appendix A. In the unlikely event that there is an emergency situation at Dee Gold Mining Company during a blast, Newmont would halt blasting operations, safely secure the blasting area, and escort emergency vehicles through the blasting area.

1. Action suggested: DGMC feels that a co-operative blasting agreement is necessary to resolve these issues.

PUBLIC ACCESS:

1. Access Roads: Page 2-22, Access Roads. Paragraph 1 states, "3 miles of access roads would be constructed from the Dunphy Road to an intersection south of the mining operation near Bell Creek. Light vehicle traffic would be integrated with haul trucks and other mining equipment at this intersection."

B

A. Due to safety considerations Dee Gold Mining Co. does not feel that the integration of light vehicles and mine equipment is the best option.

1. Alternate options:

a. an alternate road to the south of the project area connecting Dunphy Road to the existing Bootstrap road.

b. construction of a light vehicle road adjacent to the proposed Bootstrap haul road physically separating light vehicles from haul traffic by a barrier i.e. four-strand barbed wire fence with signs or a berm.

2. Direct and Indirect Impacts: Page 4-38, Access Roads. Paragraph 1 states, "Access along the Dunphy Road and Bell Creek/Antelope Creek roads would be maintained for mine exploration and other land uses."

C A. The DEIS and associated figures are unclear as to the location of Bell Creek/Antelope Creek roads.

D B. Dee Gold Mining Co. has plans to upgrade the minesite transportation fleet based upon the existing roads and conditions. If the new road were to be of lesser quality this upgrade would not be possible.

E C. Dee Gold Mining Co. needs to be assured that the present access route will not be unreasonably restricted as to cause a hardship.

Thank you for your time and consideration in this matter.

Sincerely,

John R. Barber
Environmental Coordinator

attachment
cc: B. Brown, DGMC
J.N. Hepworth, Rayrock Mines, Inc.

P.O. BOX 1193 ELKO, NEVADA 89803 702-738-6440

Response 7B

Newmont has redesigned the proposed road between the Bootstrap Project and Mill #4. The revised design provides an 85-foot wide running surface for mine haul trucks and other mining equipment and a 35-foot wide running surface for light vehicle traffic. The road design includes external safety berms and the two roadways will separated by a safety berm. See Mitigation Plan, Appendix A.

Response 7C

The Bell Creek/Antelope Creek roads are two track roads that roughly parallel these creeks.

Response 7D

The new road will be constructed to standards similar to the existing road.

Response 7E

Comment noted. See Response 7A.

DEE GOLD MINING CO.
PROPERTY BOUNDARY
2500' RADIUS FROM
APROX. WEST EDGE
OF BOOTSTRAP CAPSTONE
AND TARA PITS
DEE GOLD MINING CO.
PROPERTY BOUNDARY
2500' RADIUS FROM APROX CENTERLINE
OF BOOTSTRAP CAPSTONE AND TARA PITS
DEE GOLD MINE
ACCESS ROAD
DUNPHY ROAD
ACCESS ROAD
DEE GOLD MINING CO.
PROPERTY BOUNDARY
DUNPHY ROAD
DEE GOLD MINING CO.
DEE GOLD MINE
TITLE: ACCESS ROAD
CENTERLINE
DRAWN BY: RJD
DATE: 3-18-96
REV. DATE:
SCALE: 1" = 2000'

Letter #8

Dee Gold Mining Co.

April 22, 1996

Deb McFarlane
EIS Project Manager
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89801

RE: Draft Bootstrap Project Environmental Impact Statement.

Dear Ms. McFarlane:

A On March 29, 1996, Dee Gold Mining Co. and Newmont Gold Company meet to discuss DGMC's concerns raised during the March 26, 1996, public meet for the Draft Bootstrap Environmental Impact Statement. During this meeting DGMC's concerns were discussed and an agreement was reached. Therefore, in accordance with the DGMC and Newmont Gold Company agreement, DGMC feels that these issues have been addressed.

Sincerely,

John R. Barber
Environmental Coordinator

cc: B. Brown
J.N. Hepworth

Letter 8 -- Dee Gold Mining Company; April 22, 1996

Response 8A

Comment noted. See also Response 6B.

P.O. BOX 1193 ELKO, NEVADA 89803 702-738-5440

Letter #9

John Davis Trucking Company
Mailing Address: 720 South Broad Street, Battle Mountain, Nevada 89820
Physical Address: 2239 Muleshoe Road, Battle Mountain, Nevada 89820
(702) 635-2805, Fax (702) 635-8017

April 22, 1996

BLM Elko District Office
PO Box 831
Elko NV 89803

Ref: Newmont Gold Comapny's
Bootstrap Project

Attention: Deb McFarlane

John Davis Trucking Company is a trucking contractor for Baroid Drilling Fluids located at Dunphy, Nevada. We are contracted to haul barite ore from their Rossi Mine to the mill at Dunphy, Nevada. The route that we use for this hauling is Boulder Flat road, or the sometime called Dunphy road.

A The Newmont Gold Company's Bootstrap Project will interfer with the operation of John Davis Trucking Company, as the project would stop our vehicles while certain tasks are being proformed at this project. Our hauling rate does not reflect any extra time it will take to stop and wait for Newmont to do their tasks. The time it takes to make a load is one of the greatest factors in calculating our hauling rate. Therefore we would loose money while our vehicles are stopped for Newmont Gold Comany does their blasting or other tasks.

B Newmont constructed a new road in the same area, that this proposed project is located that opened this last year, that has already caused our company problems. The road is very steep , soft shouldered, very narrow, and very deep barrow ditches, and put a great deal of stress on our company's vehicles. If the proposed stopping place for the vehicles is at the bottom of this hill, it will cause a great deal of problems for our company. There is already a problem with the heavy traffic on the Dunphy Road and stopping it will create a bigger problem.

Letter 9 – John Davis Trucking Company, April 22, 1996

Response 9A

See Response 6B.

Response 9B

Prior construction of the existing road is beyond the scope of this document. Traffic control is addressed in Response 6B.

There has to be a solution to these problem ,that all the Mines, and the Contractors working for these mines, could agree on that would not compromize the others companies proformance or the financial state of the business.

If you would like or need further information from us please contact at the above address or telephone numbers.

Respectively,

Joanna Davis

John Davis Trucking Co.
John N. and Joanna Davis , Owner

Letter #10

John Davis Trucking Company
Mailing Address: 720 South Broad Street, Battle Mountain, Nevada 89820
Physical Address: 2239 Muleshoe Road, Battle Mountain, Nevada 89820
(702) 635-2805, Fax (702) 635-8017

April 25, 1996

BLM Elko District Office
PO Box 831
Elko NV 89803

Ref: Newmont Gold Company's Bootstrap Project

Attention: Deb McFarlane

John Davis Trucking Company wrote you a letter, dated April 22, 1996, exspressing our concerns about the, proposed, Bootstrap Project.

Newmont Gold Company representives held a meeting today, at the proposed project site, with John N. Davis and representatives of Baroid Drilling Fluids. The Newmont Gold Company's representatives were very helpful in answering the questions and illimitating our concerns on the effect the project would have on our Company. They assured us that we would be included with decisions made in the matters concerning the Bolder Flat Road, when it would involve our Company. John Davis Trucking Compnay at this time has no further questions nor objections concerning the proposed Bootstrap Project.

A At this time we would like to lend our support to Newmont Gold Company,with the Bootstrap Project, and assist them when possible.

If further information is needed, please contact us at the above address or telephone number.

Respectively,

Joanna Davis

John Davis Trucking Company
John N. and Joanna Davis , Owners

Letter 10 – John Davis Trucking Company, April 25, 1996

Response 10A

Comment noted.

Letter #11

BOB MILLER
Governor

STATE OF NEVADA

DEPARTMENT OF ADMINISTRATION
Capitol Complex
Carson City, Nevada 89710
Fax (702) 687-3983
(702) 687-4065

April 26, 1996

Deb McFarlane, EIS Project Manager
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, NV 89801

Re: SAI NV # 96300145

Project: DEIS – Bootstrap Project
1793.6/3809, N16-94-002P, NV-012/NV-932.8

Dear Ms. McFarlane:

Enclosed are the comments from the Nevada Natural Heritage Program concerning the above referenced project. These comments constitute the State Clearinghouse review of this proposal as per Executive Order 12372. Please address these comments or concerns in your final decision. If you have any questions please contact either me, at 687-6382, or Julie Butler, Clearinghouse Coordinator/SPOC, at 687-6367.

Sincerely,

Terri Rodefer, Environmental Advocate
Nevada State Clearinghouse

Enclosure

Nevada Natural Heritage Program

Department of Conservation and Natural Resources
1550 East College Parkway * Carson City, Nevada 89710
(702) 687-4245

Comments on Nevada SAI # 96300145, DEIS -- Bootstrap Project.
Comment due date April 26, 1996.

A 1. Pages 4-15 to 4-27: The DEIS proposes to use reclamation seed mixes that include exotic plant species known to become a permanent part of the vegetation once established (for example, small burnet), and often to spread into adjacent native vegetation. The DEIS fails to adequately address the long-term and cumulative impacts (p. 4-59) to the vegetation of Nevada caused by the current and historical practice of re-seeding with exotic plant species throughout the state. The DEIS also fails to analyze an alternative which would require the use of native-only mixes in all reclamation re-seeding.

B We strongly recommend the analysis and adoption of a native-only seed mix alternative to avoid further immediate and cumulative impacts to the vegetation of Nevada.

Letter 11 – Department of Administration; Nevada Natural Heritage Program

Response 11A

In some cases, exotic species could migrate and invade native, undisturbed areas. In the intermediate time frame, exotic species could increase the land use capability as a result of increased production. Over the long time period, exotic species are typically more aggressive and therefore may tend to dominate the plant community resulting in less diversity. However, BLM would select an appropriate seed mix to minimize the potential for long term dominance of exotic species and to maintain vegetation diversity.

Response 11B

Table 2-6 in the Errata provides a list of plant species for selection of reclamation seed mixes. Five of the 44 species contained in table 2-6 are exotic species. These species have been successfully established on test plots or other reclamation projects in the Carlin Trend area. These species are also representative of post-mining land use goals for the project area.

BLM shares the concern of the Nevada Natural Heritage Program (NNHP) regarding the use of exotic species. By policy, BLM must consider the use of native species in all vegetation projects. Exceptions to this policy are permitted under certain circumstances. For example, the presence of several noxious weed species make it imperative that beneficial species that readily establish themselves be used to stabilize reclaimed sites. In addition, reclaimed rock disposal sites, heap leach pads, and tailings facilities vary considerably in their ability to support native vegetation. Species that have proven successful in these conditions need to be used especially in areas where noxious weed species are likely to otherwise dominate. BLM is always looking for native species that can meet revegetation goals. BLM readily uses such species when available and when the species are suited to the specific site conditions and precipitation zone.

P.O. Box 218
Battle Mountain, NV 89820

26 RANCH
702-635-8622 Office
702-635-8587 Fax

April 26, 1996

Deb McFarlane, EIS Project Manager
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89801

RE: EIS - Newmont Gold - Bootstrap Project

Dear Ms McFarlane:

The following comments are based on my concerns for livestock and grazing on the 25 Allotment (26 Ranch).

LIVESTOCK WATER

A The ability for livestock to have adequate drinking water within a reasonable distance of their forage resource is absolutly necessary. The springs and streams in the upper Boulder Creek basin of our allotment must be monitored on an annual basis to detect any possible reductions in flow.

B Access by cattle to Boulder Creek as described on page 4-36 must be maintaned in such a manner that cattle will not be inhbated (by structures of other environmental activities) from aquiring the approrate amount of water. In the event that access is restricted and an alternate water source is necessary, the alternate source must be in place prior to livestock being restrict. This restriction may be a structure or a preception by the stock.

GRAZING MANAGEMENT

C Loss of actual forage does not seem to be a concern. However if cattle stay away from the area due to activities then some mitigation will be necessary.

FENCING

D Fencing of the project site needs to be a 5 wire fence to prevent acess by cattle. The cattle guards must be properly maintained as needed. Gates to allow acess by riders to remove cattle that may have crossed into the project site need to be included in the fence plan.

ADMINISTRATION

E 26 Ranch, Inc. needs to be notified a reasonable time prior to any activities that could impact our cattle or grass management during operations of the project.

Thank you for the opportunity to comment and if you have any questions about my comments please give me a call.

Sincerely,

Pete Talbott, Mgr.

Letter 12 - 26 Ranch

Response 12A

Comment noted. Monitoring spring and stream flow in the vicinity of the Bootstrap Project area is included in Barrick's approved Plan of Operations. See page 2-25 of the DEIS.

Response 12B

Under the proposed plan of operations, access to Boulder Creek would not be affected.

Response 12C

It is not likely that cattle would restrict their movements due to adjacent mining activities.

Response 12D

No new fencing is planned under the proposed plan of operations. However, if modifications to existing fences in the project area are necessary, Newmont would install 5-wire fence in heavy use areas around water sources and would install 4-wire fence throughout the remainder of the fence. Cattleguards would be maintained and gates would be installed as needed. Five-wire fence poses a threat to wildlife and as such would be limited to those heavy-use areas. See **Appendix A**, Mitigation Plan.

Response 12E

Comment noted.

Letter #13

NEWMONT GOLD COMPANY
1700 LINCOLN STREET
DENVER, COLORADO 80203
(303) 863-7414

April 26, 1996

EXPRESS MAIL - RETURN RECEIPT REQUESTED
EXPRESS NO. - IB798772040

Ms. Deb McFarlane
Bootstrap EIS Coordinator
Bureau of Land Management
Elko District Office
3900 E. Idaho St.
Elko, NV 89801

RE: Bootstrap Project - Draft Environmental Impact Statement

Dear Ms. McFarlane:

Newmont Gold Company (Newmont) submits the following comments on the Draft Environmental Impact Statement (DEIS) for Newmont's Bootstrap Project, issued by the Bureau of Land Management (BLM) in February 1996.

BLM prepared the DEIS in connection with Newmont's proposed Plan of Operations (POO) for the Bootstrap Project. Pursuant to 43 C.F.R. § 3809, the POO was submitted to BLM for review and approval of those operations involving the use of federal public domain lands.

A Newmont believes the DEIS contains a rigorous and comprehensive description of the potential impacts associated with the POO and the full range of potential mitigation measures that might be implemented to address those impacts. BLM is to be complimented for the quality and thoroughness of the document. Newmont agrees with the agency preferred alternatives, which include Alternative B and C-2.

Newmont appreciates the opportunity to comment on the DEIS. If I can provide any further information, please contact me at your convenience.

Sincerely,

George Conger

George Conger, Manager
Environmental Permitting

Letter 13 – Newmont Gold Company

Response 13A

Comment noted.

Letter #14

Bureau of Land Management,
Elko District Office,
Attention Deb McFarlane,
Bootstrap EIS Coordinator,
P.O. Box 831,
Elko, Nevada 89803

Ms. McFarlane,

I am writing to express my support for approval of Newmont Gold Company's Bootstrap E.I.S.

My comments are :

A

1. This project will add economic well being to the community by creating jobs and adding to the tax base.
2. In past projects and current operations Newmont Gold Company has demonstrated its ability, willingness and dedication to conducting operations in an environmentally sound manner.
3. Considering the area, past activity, community well being, Mining is the best use of the land.

I urge you to approve the Newmont Gold Company's Bootstrap E.I.S. without further delay.

Sincerely,

Kevin Sur

Letter 14 – Kevin Sur

Response 14A

Comment noted.

Letter #15

Mine Service & Supply Co.

P.O. Box 340 • Battle Mountain, NV 89820 • (702) 468-0515

April 26, 1996

Deb McFarlane, EIS Project Manager
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89801

Re: EIS-Bootstrap Project

Dear Ms. McFarlane

Mine Service and Supply fully supports Newmont Gold's Bootstrap Project and we strongly believe that it will bring significant benefits to both Elko County and Eureka County and the residents, ranchers, mining companies and other businesses in the area. The Bootstrap area has been an active mining area for many years and we believe the impacts of this additional mining activity on the environment, wildlife and cultural resources will be insignificant. We support this project even though our company and our customers may be more likely to have the most significant negative impacts on our operations because of possible access and road use restrictions.

Mine Service & Supply is a mineral processing contractor operating barite processing facilities at the Rossi Mine and Dunphy Mill which are located at opposite ends of the Boulder Valley road. We also operate a transloading facility at Dunphy for suppliers to the gold mines in the area around the Bootstrap Project. All of the traffic associated with our barite processing and transloading activities use the Boulder Valley road and other roads affected by the Bootstrap Project. Our activities and those of our primary customers, Baroid Drilling Fluids and Continental Lime will probably be most affected by the Bootstrap Project and its impact on access and road use.

A We have addressed the possible impacts and their mitigation with representatives of Newmont Gold and we are satisfied that the impacts on our activities and those of our customers will be minimized and that mitigation measures will be taken by Newmont Gold which will allow Mine Service and Supply and its customers to continue to use the roads affected by the Bootstrap Project with a minimum of restrictions and adverse impacts on our business.

Letter 15 -- Mine Service & Supply Company

Response 15A

Comment noted.

We have carefully studied the Environmental Impact Statement prepared for the Bootstrap Project and discussed the potential impacts on Mine Service and Supply with Newmont Gold and have concluded that Newmont Gold's Bootstrap Project warrants our full and unqualified support and we urge all of the agencies involved to approve this project.

Sincerely yours,

Terral G. Young

Terral G. Young
President

Letter #16

Baroid Drilling Fluids, Inc.

April 29, 1996

Ms. Deb McFarlane, E.I.S. Coordinator
Bureau of Land Management
Elko District Office
P. O. Box 831
Elko, Nevada 89803

Re: E.I.S. Bootstrap Project

Dear Ms. McFarline

Baroid Drilling Fluids, Inc., a division of Dresser Industries, wants to encourage Newmont Gold Company's proposed Bootstrap mining project. We feel the Bootstrap Mine will be an important addition to the local economy, providing continued employment of highly skilled, well paid workers.

In recent months a problem has arisen which involves all companies using the Dunphy road. Baroid first secured the right of way and built the Dunphy road in 1948. Since that time we have maintained and used the road year round to move barite ore from Baroid's Rossi Mine to the Dunphy railroad siding.

A

Baroid's concern has been with certain road design elements of the Boulder Creek diversion built by Newmont in 1995. During the winter of 1995/96 trucks were stuck on the diversion several times, each time causing delays and often blocking the road to all traffic. This had not been the case on this section of road prior to the building of the diversion. The diverted section of road is now:

- Very steep (one section in excess of 8% grade)
- Narrow with soft shoulders and deep ditches
- Very poorly drained in certain areas

Conditions on this new section of road have adversely impacted the free flow of traffic. This will in turn impact the Bootstrap project, Baroid's operation, and others that use the Dunphy road.

3000 North Sam Houston Pkwy. East (77032) • P.O. Box 1675 • Houston, Texas 77251 • (713) 987-5900

Letter 16 – Baroid Drilling Fluids

Response 16A

Road conditions associated with the previously constructed Boulder Creek diversion are not within the scope of this DEIS.

B Baroid has had two meetings with Newmont's people to voice concerns by all parties. Newmont has indicated to us that they will redesign the sections of the road of greatest concern. A follow up meeting will take place for discussion and approval of the new design. If Newmont completes the design and work on the road this will resolve our major concern pertaining to the traffic on the Dunphy road and the Bootstrap project.

If you have any questions feel free to contact me at 702/468-0515.

Sincerely;

Don L. McLean

Don L. McLean
Project Engineer
Baroid Drilling Fluids, Inc.

cc: Paul J. Mills
Al Wilson
Jim Nattier

Response 16B

Comment noted.

Letter #17

DEPARTMENT OF HEALTH & HUMAN SERVICES — Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

April 29, 1996

Deb McFarlane, EIS Project Manager
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89801

Dear Ms. McFarlane:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the Newmont Gold Bootstrap Project. We are responding on behalf of the U.S. Public Health Service.

A We believe our concerns, including occupational health and safety, have been addressed in this DEIS. We were pleased to note that while planned mitigation should minimize the potential for groundwater contamination, monitoring wells would also be established around the proposed Bootstrap/Capstone and Tara pits. Water quality problems identified in surfaced or groundwater samples in the project area would be evaluated for potential source, followed by mitigation. Also, best management practices should be implemented, as noted, and monitored to control erosion and sedimentation

Thank you for the opportunity to review and comment on this draft document. Please ensure that we are included on your mailing list to receive a copy of the Final EIS, and future EIS's which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

Kenneth W. Holt

Kenneth W. Holt, M.S.E.H.
Special Programs Group (F29)
National Center for Environmental Health

Letter 17 – Department of Health and Human Services

Response 17A

Comment noted. Please see Bootstrap Project Mitigation Plan, **Appendix A.**

Letter #18

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Reston, Virginia 22092

In Reply Refer To:
Mail Stop 423

MEMORANDUM

To: EIS Project Manager, Bureau of Land Management

From: James F. Devine
Senior Advisor for Science Applications

Subject: Review of Draft Environmental Impact Statement for the Newmont Gold Bootstrap Project, Elko and Eureka Counties, Nevada

The U.S. Geological Survey (USGS) has reviewed the subject draft environmental impact statement (EIS) and offers the following comments.

Chapter 3, page 18, third paragraph

A We suggest rewording the first sentence as follows: "The U.S. Geological Survey gaging station on Boulder Creek (site number 10324700) is about one mile downstream from the confluence with Rodeo Creek. This gaging station was operated from February 1991 to June 1993, and thereafter has been operated seasonally each year from January through June."

Chapter 3, page 26, first paragraph

B The final environmental impact statement (FES) should clarify whether the drainage area (19.4 miles^2) for Rodeo Creek includes its tributaries, Brush and Bell Creeks.

Chapter 3, page 27, last paragraph

C The U.S. Geological Survey sampled Boulder Creek at the gaging station only on March 9, 1993, but the USGS does not monitor water quality at this site.

Chapter 3, page 32, third paragraph

D The FES should discuss which rocks or deposits yield water to wells COW-1, DEE-6, and COW-3D.

Chapter 4, page 10, fifth paragraph

The northern extension of the open pit would intercept perched ground water in the Carlin formation and overlying alluvium at an estimated rate of 30 gallons per minute. The FES

Letter 18 -- United States Department of the Interior; US Geological Survey

Response 18A

Comment noted. Please see Errata for the corrected text.

Response 18B

Comment noted. The drainage basin (which includes Brush Creek) measures 19.4 square miles above the confluence with Bell Creek. The referenced basin (19.4 square miles) does not include Bell Creek. See Errata for clarified text.

Response 18C

Comment noted. Please see Errata for corrected text.

Response 18D

COW-1 is completed in carbonate rocks; DEE-6 is completed in carbonate rocks; COW-3D is completed in the Carlin Formation.

E however, should provide analytical support for this estimate through the use of Barrick's numerical model, or at least by supporting computations using Darcy's Law. In addition, the FES should discuss if the carbonate rocks and siltstones at Bootstrap contain shallow ground water. If they do, then additional flow could enter the pits from these rocks.

Chapter 4, page 11, third paragraph; and page 59, second paragraph

F The EIS indicates that low precipitation and high evaporation rates in the Bootstrap area as reasons for expecting minimal movement of water through waste-rock piles and, as a result, little or no acid drainage. The FES should support this finding with a numerical analysis of the hydraulic properties of waste-rock piles. In addition, the FES should discuss the effects of occasional heavy rains or snowpack, either of which could produce large pulses of water moving through the piles.

Chapter 4, page 13, fifth paragraph

G The basis for the total evaporation rate should be provided.

Chapter 4, pages 11-16

H The FES should reference the availability of specific information including simplifying assumptions related to the geochemical models and ground-water flow and transport models.

Copy to: USGS State Representative, Water Resources Division, Nevada
Director, Office of Environmental Policy and Compliance

Response 18E

The likely source of water which would flow into the northernmost portion of the Bootstrap/Capstone pit is Quaternary channel fill; however, some water perched on Carlin Formation layers may also contribute flow. The perched water table in the Carlin Formation (based on available data) is below the level of the pit wall intersection with the Carlin Formation. Due to continued pumping at the Betze/Post mine and increasing gradients away from the pit in the Carlin Formation, flows derived from perched water in the Carlin Formation are expected to be negligible. Also, recharge from channel fill to the underlying Carlin Formation would be negligible due to hydraulic conductivity differences. As a result, the dominant source of pit inflows would likely be cause by subsurface flow in the channel fill.

Anticipated amounts of inflow would be minor since this section of Boulder Creek is ephemeral and the depth of channel fill is shallow ($\leq$ 10 feet). Recent data from Barrick's Boulder Valley Monitoring Plan report indicate that flows in Boulder Creek are of very limited duration and of small magnitude. If the diverted surface flow recharges the channel fill which intersects the pit, the amount of pit inflow can be approximated from Darcy's equation:

$$Q = KIA = 0.0625 \text{ ft}^3/\text{s or} \sim 28 \text{ gpm}$$

where Q = inflow, K = hydraulic conductivity ($\sim$ 0.1 ft/min; an overestimation for Qal-gravelly sand, from Stone; 1991, Preliminary Assessment of Infiltration in Lower Maggie Creek Basin as a Disposal Option for Gold Quarry Dewatering Product), I = gradient ($\sim$ .0125 - determined from topographic map), and A = cross-sectional area ($\sim$ 50 ft^2; a triangular area 10 feet deep and 10 feet wide at the top).

Response 18F See **Appendix B** of the FEIS and Response 3F.

Response 18G

The total evaporation rate was obtained from Nevada Weather and Climate, Nevada Bureau of Mines and Geology, Special Publication No. 2, University of Nevada Reno, 1975. Houghton, J.G., Sakamoto, C.M., and Gifford, R.O. These data were also used by PTI (1995).

Response 18H

The PTI report "Predicted Water Quality in the Tara, Bootstrap/Capstone Pit Lakes, Elko and Eureka Counties, Nevada; PTI Environmental Services 1995 is on file at the BLM offices in Elko, Nevada.

Comment #1

A public meeting was held in Elko, Nevada on March 26, 1996 to accept public comments on the accuracy and adequacy of the Bootstrap Draft Environmental Impact Statement. Two comments were received.

COMMENTS BY GLENN LEWIS are transcribed below:

MY NAME IS GLENN LEWIS, I LIVE AT 311 OAKSHIRE LANE, ELKO. I'M JUST REPRESENTING MYSELF. I'VE LIVED IN THIS AREA ALMOST 5 YEARS AND I'M IN FAVOR OF THIS PROJECT. I BELIEVE THAT NEWMONT HAS DONE AN OUTSTANDING JOB TAKING CARE OF THE ENVIRONMENT AND TAKING CARE OF THE ANIMAL LIFE AND ALSO TAKING CARE OF THE PEOPLE. I THINK WE HAVE TO HAVE A BALANCE, WE HAVE TO LOOK AT ALL THE ASPECTS OF EVERYTHING THAT'S INVOLVED IN THE PROJECT, TO ME PEOPLE ARE IMPORTANT. I WAS RAISED IN SOUTHEASTERN WYOMING IN A SMALL MINING TOWN AND THAT TOWN IS NO LONGER IN EXISTENCE, NOT BECAUSE OF ENVIRONMENTAL ISSUES BUT BECAUSE THE COMPANY CHOSE TO CLOSE THE PROPERTY AND GO AWAY. I REALIZE THAT THIS MINE WILL NOT LAST FOREVER, BUT I THINK IT CAN OFFER A LOT TO THE CITIZENS OF NEVADA AND TO THE SURROUNDING AREA FOR THE NEXT 10 OR 15 YEARS, SO AGAIN I AM A 100 % SUPPORTER. THANKS.

Comments by John Barber are accurately reflected in his hand delivered letter which is included in this FEIS as letter number 7.

Comment 1 - Glenn Lewis

Comment noted. Please see Errata for corrected text.

LIST OF ACRONYMS

AGP	acid-generating potential
AFDC	Aid to families with dependent children
AIRFA	American Indian Religions Freedom Act
AMSL	above mean sea level
ANFO	ammonium nitrate and fuel oil
ANP	acid-neutralizing potential
APE	area of potential effect
AWHC	available water holding capacity
AUM	animal unit month
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
B.P.	before present
CEQ	Council on Environmental Quality
CFB	circulating fluidized bed
CFR	Code of Federal Regulations
CIL	carbon-in-leach
CIP	carbon-in-pulp
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMT	emergency medical technician
ESD	ecological site description
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLPMA	Federal Land Management Practices Act
FY	fiscal year
HCN	hydrogen cyanide
HDPE	high-density polyethylene
IF	isolated finds
ISO	Insurance Services Office
KOP	key observation point
LCT	Lahontan cutthroat trout
MCE	maximum credible earthquake

MSHA	Mine Safety and Health Administration
NAAQS	national ambient air quality standards
NAC	Nevada Administrative Code
NAGPRA	Native American Graves Protection and Repatriation Act
NANP	net acid neutralization potential
NDCNR	Nevada Department of Conservation and Natural Resources
NDEP	Nevada Division of Environmental Protection
NDH	Nevada Division of Health
NDOT	Nevada Department of Transportation
NDOW	Nevada Division of Wildlife
NDSP	Nevada Division of State Parks
NDWR	Nevada Division of Water Resources
NENDA	Northeast Nevada Development Authority
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	national pollution discharge elimination system
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
ORV	off-road vehicle
OSHA	Occupational Safety and Health Administration
PLS	pure live seed
POO	plan of operations
PMP	probable maximum precipitation
PSC	Public Service Commission
PSD	prevention of significant deterioration
RA	resource area
RCRA	Resource Conservation and Recovery Act
RMP	Resource Management Plan
ROD	Record of Decision
RRD	root restricting depth
RUSLE	Revised Universal Soil Loss Equation
SARA	Superfund Amendments and Reauthorization Act
SCORP	Statewide Comprehensive Outdoor Recreation Plan

SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SPPC	Sierra Pacific Power Company
SRA	State Recreation Area
SRMA	special recreational management area
TCLP	toxicity characteristic leaching procedure
TCP	traditional cultural properties
TDF	tailings disposal facility
TDS	total dissolved solids
TPQ	threshold planning quantity
TSP	total suspended particulate
TSS	total suspended solids
USCOE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	visual resource management
WAD	weak acid dissociable
WEG	wind erodibility group
WIC	women with infants and children
WSA	wilderness study area

GLOSSARY

Acre-feet. The volume of liquid or solid required to cover 1 acre to a depth of 1 foot, which is equivalent to 43,560 cubic feet; measure for volumes of water, reservoir rock, etc.

Activated Carbon. Highly adsorbent carbon formed by heating granulated charcoal to exhaust contained gases.

Adit. A nearly horizontal passage, driven from the surface, by which a mine may be entered, ventilated, and/or dewatered.

Alluvial. Pertaining to material or processes associated with transportation or deposition of soil and rock by flowing water (e.g., streams and rivers).

Alluvium. Soil and rock deposited by flowing water (e.g., streams and rivers); consists of unconsolidated deposits of sediment, such as silt, sand, and gravel.

Ambient. Surrounding, existing.

Assay. Qualitative or quantitative analysis of a substance (e.g., ore body).

Baghouse. Dust collection and control facility.

Basic Elements (visual). The four major elements (form, line, color, and texture) which determine how the character of a landscape is perceived.

Bio-oxidation. Process by which chemicals are transformed into their oxidized state by living organisms.

Carbonaceous Ore. Ore containing large amounts of carbon.

Contrast (visual). The effect of a striking difference in form, line, color, or texture of the landscape features within the area being viewed.

Critical (Crucial) Habitat. Habitat that is present in minimum amounts and is a determining factor for population maintenance and growth.

dBA. The sound pressure levels in decibels measured with a frequency weighing network corresponding to the A-scale on a standard sound level meter. The A-scale tends to suppress lower frequencies (e.g., below 1,000 Hz).

Decant. To remove or pour off a liquid without disturbing associated sediment or solids.

Decibel (dB). One-tenth of a Bel is a measure on a logarithmic scale which indicates the ratio between two sound powers. A ratio of 2 in power corresponds to a difference of 3 decibels between two sounds. The decibel is the basic unit of sound measure.

Dissolution. The process of dissolving or, more rarely, melting.

Disturbed Area. Area where natural vegetation and soils have been removed.

Doré Bars. Product of retort furnace containing gold, silver, and impurities.

Ecological Site. Subdivisions of rangeland differentiated by the potential natural vegetation they are capable of supporting.

Electrolyte. A substance, usually in solution, which will transmit an electrical current.

Electrowinning - Electrometallurgy. The art or science of electrolytically depositing metals, or separating them from their ores or alloys.

Endangered Species. Species in danger of extinction throughout all or a significant portion of its range.

Ephemeral Stream. A stream or portion of a stream which flows briefly in direct response to precipitation in the immediate vicinity, and whose channel is at all times above the water table.

Evapotranspiration (ET). The portion of precipitation returned to the air through evaporation and transpiration.

Feeder Zones. Deep pathways followed by mineralizing fluids to form an orebody, often containing rich ore.

Floodplain. The low and relatively flat areas adjacent to rivers and streams. A 100-year floodplain is that area subject to a 1 percent or greater chance of flooding in any given year.

Flume. A structure built in an open channel that constricts water flow through a designed opening to measure rate of water flow.

Flux. A substance which promotes the fusing of minerals or metals.

Forage. Vegetation used for food by wildlife, particularly big game wildlife and domestic livestock.

Game Species. Animals commonly hunted for food or sport.

Hertz (Hz). The unit of frequency (i.e., sound) formerly designated as cps - cycles per second.

Host Rock. A rock body or wall rock enclosing mineralization.

Hydraulic Gradient. For groundwater, the rate of change of total head per unit of distance of flow at a given point and in a given direction.

Hydrostratigraphic Unit. Grouping of stratified, mainly sedimentary rocks that have similar groundwater flow conditions.

Igneous. Rock or mineral that solidified from molten or partly molten material.

Intermittent Stream. Stream that flows only part of the time or during part of the year.

Isopleth. A line, on a map or chart, drawn through points of equal size or abundance.

Key Observation Point (KOP). An observer position on a travel route used to determine visible area.

Lithic Scatter. A discrete grouping of flakes of stone created as a byproduct in the tool-making process. Often includes flakes used as tools as well as formal stone tools such as projectile points, knives, or scrapers.

Makeup Water. Water needed to supplement water removed by milling or processing of ore and losses to evaporation.

Maximum Credible Earthquake. The largest conceivable earthquake that could occur in an area.

Mesic. Moist habitats associated with springs, seeps, and riparian areas.

Mitigation. Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

Peak Flow. The greatest flow attained during melting of winter snowpack or during a large precipitation event.

Perched Water Table. Unconfined groundwater separated from the underlying main body of groundwater by unsaturated rock.

Perennial Stream. A stream that flows throughout the year and from source to mouth.

Permeability. The capacity of porous rock, sediment, or soil to transmit a fluid.

pH. The negative $\log_{10}$ of the hydrogen ion activity in solution; measure of acidity or basicity of a solution.

PM-10. Particulate matter less than 10 microns in aerodynamic diameter.

Probable Maximum Precipitation (PMP). The greatest depth of precipitation for a given duration that is physically possible over a given storm area at a particular location at a certain time of year.

Raptor. A bird of prey (e.g., eagles, hawks, falcons, and owls).

Refractory Ore. Ore difficult to treat for recovery of valuable substances.

Retort. A furnace in which ore may be heated for removal of its metal content.

Riparian. Situated on or pertaining to the bank of a river, stream, or other body of water. Riparian is normally used to refer to plants of all types that grow along streams, rivers, or at spring and seep sites.

Run-of-Mine Ore. Ore taken from a mine or pit directly to a mill or leach pad for processing.

Scoping. Procedures by which agencies determine the extent of analysis necessary for a proposed action, (i.e., the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis, data, and task assignments needed).

Sediment Load. The amount of sediment (sand, silt, and fine particles) carried by a stream or river.

Seepage Collection System. A system of drains, ponds, and pumps to collect and return tailing impoundment and embankment seepage.

Significant. As used in NEPA, requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27)

Sulfides. That part of a lode or vein not yet oxidized by air or surface water and containing sulfide minerals.

Steppe. Vast plains devoid of forest.

Tackifier. An agent that binds seed, fertilizer, and mulch to a site, often used when seeding slopes.

Threatened Species. Any species of plant or animal which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Total Suspended Particulates (TSP). Particulates less than 100 microns in diameter (Stokes equivalent diameter).

Total Dissolved Solids (TDS). Total amount of dissolved material, organic or inorganic, contained in a sample of water.

Total Suspended Solids (TSS). Undissolved particles suspended in liquid.

Weak Acid Dissociable (WAD). Compound that in the presence of a weak acid would disassociate into its ionic forms in solution.

Weir. An overflow structure built across an open channel, usually to measure rate of water flow.

Wetlands. Areas inundated by surface water or groundwater with a frequency sufficient to support vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

APPENDIX A

NEWMONT GOLD COMPANY'S BOOTSTRAP PROJECT MITIGATION PLAN

Prepared for:

U.S. Department of the Interior
Bureau of Land Management
Elko District Office
Elko, Nevada

May 1996

INTRODUCTION

The Draft Environmental Impact Statement (DEIS) for Newmont Gold Company's (Newmont) Bootstrap Project identifies potential impacts associated with implementation of the proposed Plan of Operations. As part of the analysis contained in the DEIS, the Bureau of Land Management (BLM) developed potential mitigation and monitoring measures which may be implemented to reduce or eliminate effects to each resource.

This Mitigation Plan provides a detailed and specific set of mitigation and/or monitoring measures which Newmont commits to undertake upon issuance of a Record of Decision on the Bootstrap Project. The Mitigation Plan contains mitigation measures which address each substantive potential resource impact identified in the DEIS. The Mitigation Plan was developed to address impacts without regard to whether they occur on public or private land.

Water Quantity and Quality

Newmont will conduct pit lake geochemical modeling every five years during the mine life and at the end of the mine life. These modeling efforts would use kinetic test data provided by actual wall rock samples from the open pit mines. Following mine closure, pit lake geochemical modeling will be conducted as determined by BLM and Nevada Division of Environmental Protection (NDEP), but no more frequently than every five years. Should refined predictions in the future show a strong possibility of violating NAC445A.429, Newmont will evaluate and propose mitigation measures.

Newmont will install groundwater monitoring wells to monitor the quality of groundwater adjacent to the Bootstrap/Capstone and Tara pits. These monitoring wells will be completed to measure the effects of the water which is predicted to flow through the Bootstrap/Capstone and Tara pit lakes on adjacent groundwater. At a minimum, 1 well will be installed upgradient of the Bootstrap Project and 2 wells will be installed downgradient of the Bootstrap Project. Actual location of these wells will be determined in conjunction with the NDEP and BLM according to NAC445A.440. The monitoring wells will be installed once the groundwater level recovers to 100 feet below the ultimate pit bottom elevation. Once the pits begin filling with groundwater, pit lake water quality samples will be collected and water levels will be recorded.

Monitoring wells and pit lakes will be sampled at a frequency to be determined in conjunction with NDEP and BLM, and the samples will be analyzed for the parameters listed in Table I:

TABLE I
BOOTSTRAP PROJECT WATER QUALITY PARAMETER LIST
(all parameters analyzed on a dissolved basis)

Alkalinity (as $CaCO_3$)	Lead
Bicarbonate	Magnesium
Total	Manganese
Aluminum	Mercury
Antimony	Nitrate
Arsenic	pH ($\pm$ 0.1 units)
Barium	Potassium
Beryllium	Selenium
Boron	Silver
Cadmium	Sodium
Calcium	Sulfate
Chloride	Thallium
Chromium	Total Dissolved Solids
Copper	Zinc
Iron	Fluoride

Monitoring reports will be submitted to NDEP and BLM. Monitoring will continue until such time as NDEP and BLM determine that sufficient data has been collected according to NAC445A.446.

Soil and Watershed

In addition to soil handling methods and erosion control measures identified in the Bootstrap Project POO, Newmont will implement the following mitigation activities to reduce potential impacts to soil resources:

- Soil stripping, handling, and stockpiling will not be conducted during windy conditions. The decision to cease soil removal operations will be the responsibility of a Newmont reclamation specialist directing soil salvage operations.

- Where feasible, Newmont will strip and direct haul soil and/or growth medium and spread these materials on disturbance areas where all necessary regrading and site preparations have been completed. Direct haul and spreading activities will be limited to those sites which would not be redisturbed during Bootstrap Project closure.

- Newmont's field personnel will ensure that during soil/growth medium replacement activities, desirable growth material is placed in the root zone of reclaimed areas. Growth medium will be tested as necessary during reclamation construction to ensure that undesirable materials are not used in the rooting zone.

Vegetation

Newmont has submitted a reclamation plan for the Bootstrap Project. In addition to the reclamation methods and techniques described in that plan, Newmont will implement the following measures to ensure successful reclamation:

- Varying the seed mixes in both species and seeding rate to take advantage of slope and aspect, replaced soil depth, and landscape features. The list of potential species from which the seed mix will be selected are described in the Errata, Table 2-6 and the Bootstrap Project Reclamation Plan (May 1996).

- In addition to the seeding proposed in the POO and Reclamation Plan, Newmont will plant seedlings of selected plant species. Seedlings will be planted in designated areas during the reclamation program.

- Newmont will conduct non-uniform seeding and shrub planting. Non-uniform plantings and seedings will create a more natural mosaic of vegetation on reclaimed lands and will allow reclamation to meet management goals.

- Re-established plant communities would be protected from livestock until monitoring indicates that plant establishment and growth have progressed to the point that livestock use can be supported without adverse affects on the plant and soil system.

Terrestrial Wildlife

Approximately 155 acres of public land and 109 acres of private land would remain as open pit areas after reclamation of the Bootstrap Project. These areas would not be available as habitat for mule deer, antelope, or other terrestrial wildlife species.

Newmont will continue its vegetation enhancement project that was most recently amended with the South Operations Area Project Mitigation Plan. Newmont will seed approximately 300 acres of mule deer transition range on public land on the western flank of the Tuscarora Mountains in the vicinity of the Carlin Trend. The actual location of the seeding project will be determined in consultation with BLM and the Nevada Division

of Wildlife (NDOW). Establishment of perennial grasses and shrubs will also create habitat for a variety of terrestrial and avian species.

The natural occurrence of overhangs and alcoves within the final pit walls will provide potential aeries for a variety of raptors, including species that are locally common (e.g., golden eagle and red-tailed hawk).

All power lines to be built to bring power to the Bootstrap Project and internal power distribution systems will be raptor-proof to avoid electrocution of raptors.

Visual Resources

Newmont has revised the design of the Bootstrap/Capstone and Tara waste rock disposal facilities to reduce long straight profiles associated with benches and terraces of these disposal facilities.

Where feasible, large flat surfaces on the upper lifts of the waste rock disposal facilities will be reformed with rock piles and ripping to create surfaces that appear more natural and blend in with undisturbed areas.

Newmont will incorporate varying slopes into the reclamation plan to produce an overall average 2.5H:1.0V slope. Varying slopes, in combination with varying seed mixes, will provide for a more natural looking reclaimed area.

Newmont will randomly place large rocks/boulders along faces and tops of waste rock disposal facilities to break up long, linear profiles and provide wildlife habitat.

Ancillary buildings and facilities constructed for the project will be painted to blend in with natural colors; flat paint finish will be utilized on buildings to reduce reflectivity.

Cultural Resources

Based on cultural resources surveys completed in the Bootstrap Project area, 21 sites eligible for the National Register of Historic Places (NRHP) were identified within or immediately adjacent to the Bootstrap Project area. One of these sites will be impacted by the proposed pit and five of the sites will be impacted by the proposed haul road and installation of the security office. The proposed activities will avoid the other identified sites and no impacts to those sites will occur.

The five sites impacted by the haul road and security office are identified as CrNV-12-7345, -7364, -7368, -7440, and -7940. The site impacted by the pit is identified as CrNV-7946.

Impacts to these sites associated with the Proposed Action will be mitigated by collecting recoverable data prior to disturbance and preparing a report on this data. The proposed data collection program for the site impacted by the pit has been summarized in a treatment plan (P-III Associates; Cultural Resources Report #5006-01-9515) submitted to BLM. The proposed data collection efforts for the five sites impacted by the haul road have been summarized in a treatment plan (P-III Associates; Cultural Resources Report #5078-01-9605) submitted to BLM in February 1996. Upon approval of the proposed treatment plans by BLM and the State Historic Preservation Office, field work will commence on these sites. Mitigation of these sites continues a comprehensive research effort into the prehistoric human occupation in this area that has been conducted over the past decade. The data recovery methods focus on field work, and will increase understanding of archaeological issues in this area and the Great Basin.

Access

Occasional road closures for mine blasting will be necessary. Road closures will be minimized as required for efficient mining operations. Newmont has developed traffic control procedures to address mine blasting safety. Blasting will be scheduled at regular intervals. Daily communications will be maintained with affected parties. All roads affected by blasting will be posted with blasting/road closure notification. A telephone number will be posted to provide details of current blasting schedules.

In the unlikely event that there is an emergency situation at Dee Gold Mining Co. during a blast, Newmont would halt blasting operations, safely secure the blasting area, and escort emergency vehicles through the blasting area.

Newmont has redesigned the proposed road between the Bootstrap Project and Mill #4. The revised design provides an 85-foot wide running surface for mine haul trucks and other mining equipment and a 35-foot wide running surface for light vehicle traffic. The road design includes external safety berms and the two roadways will be separated by a safety berm.

Grazing Management

No new fencing is planned under the proposed plan of operations. However, if modifications to existing fences in the project area are necessary, Newmont would install

5-wire fence in heavy use areas around water sources and would install 4-wire fence throughout the remainder of the fence. Cattleguards would be maintained and gates would be installed as needed. Five-wire fence poses a threat to wildlife and as such would be limited to those heavy-use areas.

APPENDIX B

SUMMARY REPORT

LEACHATE POTENTIAL OF THE BOOTSTRAP WASTE ROCK PILES

LEACHATE POTENTIAL OF THE BOOTSTRAP WASTE ROCK PILES

Results of meteoric water mobility tests completed on ore and waste rock samples collected from the Tara and Bootstrap deposits indicate that leachate solutions derived from the ore and waste rock would contain antimony at concentrations that would exceed maximum contaminant levels (MCLs). As a result, Newmont contracted Brown and Caldwell to conduct a technical analysis of the potential for antimony-bearing water infiltrating through the waste rock piles to degrade underlying groundwater.

The technical analysis was completed by simulating unsaturated flow through the proposed waste rock piles using the U.S. Army Corps of Engineers' Hydrologic Evaluation of Landfill Performance (HELP) computer code. The HELP model considers the following factors to account for the mass balance transfer of water in multi-layered hydrological systems:

- Site-specific meteorological data including precipitation, evaporation, temperature, solar radiation, wind, and humidity.
- Slope and vegetation to calculate runoff and evapotranspiration.
- Hydrogeological properties (e.g. hydraulic conductivity, porosity, soil moisture, etc.) of the various waste rock layers.

The model was configured to simulate the infiltration of precipitation through three, 100-foot lifts of waste rock (total waste rock pile of 300 feet thick). A three-foot thick layer of relatively low permeability material was included at the top of each waste rock lift to represent the compaction effects of 120-ton haul trucks. A 12-inch topsoil layer was simulated as a loam soil with a poor stand of grass and a surface slope of one percent. Hydrogeological parameters for each layer were designated based on default values provided by the model or on laboratory test results of representative material samples, whichever was more appropriate.

Meteorological data provided by HELP for Elko, Nevada was used to simulate meteorological conditions at the site. This procedure produced an annual precipitation of 9.4 inches, an annual evapotranspiration of 8.4 inches, 0.76 inches of runoff, and 0.23 inches of infiltration.

The model was executed for a 100-year simulation period. Throughout that time, evapotranspiration, runoff, and infiltration accounted for 90, 8, and 2 percent of the precipitation, respectively. Based on results of the simulation, the first layer of compacted waste rock would accumulate moisture over the first 17 years after closure, reaching 100 percent of its moisture capacity. The first layer of uncompacted waste rock begins to accumulate moisture approximately 10 years after closure, but only reaches approximately

80 percent of its moisture capacity 100 years after closure. The second layer of compacted waste rock reaches approximately 80 percent of its moisture capacity at the end of the 100-year period. Water did not infiltrate to the second 100-foot lift of waste rock over the 100-year period. In summary, results of the HELP modeling exercise indicate that water would infiltrate through approximately one third of the 300-foot waste rock pile in 100 years.

REFERENCE

Brown and Caldwell. 1996. Environmental Permitting Assistance, Bootstrap Gold Mine Project.

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225